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From 10th Grade to EID Article: An Interview with Devorah E. Klein

By Pamela Savage-Knepshield, HFES Bulletin Features Editor

The design and development of a pointe shoe that meets the needs of professional and paraprofessional ballerinas was the topic of an article in the Summer 2008 issue of *Ergonomics in Design*. Its authors, Lina A. Colucci and Devorah E. Klein, describe the process they used within an ergonomics and usability context to redesign a shoe that has received relatively little design attention since the early 19th century.

Not only is it remarkable that the pointe shoe has received so little attention for so long, it is also notable that the impetus for its revolutionary redesign was a 10th-grade science fair project. What is not surprising is that the work won first place at the Massachusetts State Fair and that Lina was subsequently selected as a delegate to the American Junior Association of Science. Clearly, Dr. Klein’s mentoring and technical skills contributed to the overall success of this endeavor. We asked Dr. Klein to share with us some of the projects’ highlights and lessons learned.

How did you get involved with this innovative HF/E development project? Why was this particular design problem selected?

Lina approached me with a topic she had chosen based on her love of ballet. The area seemed very exciting to me and underexplored. How could I say no? Lina’s father is a colleague of mine. Because I knew Lina, I was confident that she could carry the science fair project off conscientiously and competently. I would not have wanted her to start a project she couldn’t successfully complete.

How did you decide which project tasks would be performed individually or jointly by you and Lina?

Given that this was originally a project for a science fair, Lina was responsible for all tasks and I had no plans to do any on my own. The tasks we did together were those where I could provide



guidance and mentoring; planning and conducting the research, analyzing data, and designing a study to test her concept.

When we decided to turn the project into an article, I took on more of the responsibilities for shaping her work into a manuscript.

What are your impressions of Lina’s experiences during the project? How did it challenge her?

Because Lina picked something she found interesting, I didn’t have to do *anything* to motivate her!

Lina didn’t have a background in collecting data and doing research, conducting literature reviews, synthesizing data, or testing her designs. I came to realize that a design project is a microcosm of science, extending from observation to hypothesis generation to evaluation. The project exercised many areas of human factors: ergonomics, manufacturing considerations, user dissatisfaction, user requirements, functional requirements, and evaluation. The project made all these areas more salient because Lina was conducting them as a 10th grader.

To what extent did she enjoy it? How did it influence her career direction?

I think Lina enjoyed it a lot, but definitely not every moment. For example, doing the literature review was a struggle. In the end, I think she enjoyed acquiring new skills along with the achievement of the new shoe design.

Lina’s career direction was, and continues to be, engineering, but this project sparked her interest in the human factors aspects of engineering, and I think she’ll be a better engineer because she’s learned how to think about people and what they need.

What challenges and opportunities did you identify from working with a high school student on a design project?

This was a long project. From the beginning of the science fair part until we submitted the article for publication was close to

From 10th Grade to EID Article...

(continued from page 1)

two years. Lina had to fit the project into a schedule that included a full load of classes, ballet lessons, music lessons and performances, college prep, and an active social schedule. The science fair project was done by the end of her sophomore year, but Lina kept working on it for another year, continuing to evolve and test the design and write the article.

I tried to make this project feel like a professional collaboration rather than a mentorship. I worked to set expectations that we both had responsibilities and that I would mentor on the tools she didn't know but that we would collaborate on her areas of strength.

How did your role as a mentor contribute to your own professional development?

More and more I'm called on to mentor new human factors professionals at IDEO. This was an extreme, and extremely satisfying, opportunity for me to assess someone's capabilities so I could set expectations, provide feedback in a useful way and at an appropriate level, and teach in a way that felt good for both of us.

It has also been an inspiring project because of the clearly successful outcome and the way I could see Lina's skills grow so rapidly. My degree is in cognitive psychology, so that perspective helped me appreciate the evolution of Lina's mental models of the domain and her understanding of research.

What recommendations can you make to others as they consider mentoring a student who is about to embark on a similar, in-depth HF/E project?

Being a human factors professional brings opportunities as well as obligations. Experiences like these are an opportunity to sharpen our mentoring skills, better apply our knowledge of human factors, and become better managers. Over the course of this project my conversations with Lina focused on important human factors skills: what it means to be a good observer, how to interview someone in an engaging and productive way, how to analyze qualitative data and build a robust model of design opportunities, and how to turn those into a design. It made me reflect on how few of those skills are explicitly taught in human factors programs.

Experiences like this also help fulfill obligations to our field. Many of us take seriously our commitments to reviewing manuscripts, but this is another way to nurture our community. One of the most exciting things was to see Lina introduce human factors to the science fair community with poise and professionalism.

Reflecting on this project also makes me realize how many comparable human factors projects could be conducted at the high school level. These could sensitize students to the psychology of everyday things, not by reading a book or taking a class but by engaging in their own investigations.

Devorah E. Klein received her PhD in cognitive psychology from the University of Illinois at Urbana-Champaign. She leads the human factors team for IDEO's Cambridge, MA, location. She focuses on designing products and experiences in the domain of health care.

DOMAINS

HFES Expands Mentoring Activities

By Anthony D. Andre, Internal Affairs Domain Leader

HFES is launching a new mentoring initiative this year. Though still in development, the general plan is to promote year-round mentoring activities targeted at both students and young professionals. Some of the mentoring concepts being explored include the following:

- Individual mentoring in which members enlist to mentor a student or young professional after being matched by shared interests or skills
- Mentoring-focused Web seminars in which a given HFES member shares his or her experience and advice with a group of students or young professionals, followed by a Q&A session
- Continuation of mentoring sessions and socials at the HFES annual meeting

We are open to other ideas and mechanisms, so please feel free to e-mail me at andre@interface-analysis.com with your feedback and suggestions.

STUDENT VIEWS

Resources for Students

The HFES Web site offers a number of articles with tips and advice to students and professionals who are interested in a career in human factors/ergonomics.



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STUDENT VIEWS, cont.

- Quick Tips for Finding a Human Factors/Ergonomics Job in Industry
<http://www.hfes.org/web/Students/quicktips1.html>
- Preparing for a Career in Human Factors/Ergonomics: A Resource Guide
<http://www.hfes.org/web/Students/career.html>
- Educational Resources: Human Factors/Ergonomics Internships
<http://www.hfes.org/web/EducationalResources/internships.html>
- Educational Resources: Careers in Human Factors/Ergonomics
<http://www.hfes.org/web/EducationalResources/careerresourcesmain.html>

HUMAN FACTORS

Human Factors Editorial Structure Undergoes Changes

By Kermit Davis, *Scientific Publications and Communications Domain Leader*

The HFES Publications Committee and Scientific Publications and Communications Domain have been working on restructuring the editorship of *Human Factors* to make the journal more strategic and to distribute the manuscript evaluation and decision workload more efficiently.

Beginning with the February 2009 issue, *Human Factors* will be published by SAGE Publications, which will open up many opportunities for the journal. Leading up to this change in publisher, the current editor, Nancy Cooke, completed her term, and the process of identifying a new editor was initiated in February 2008. During the search for a new editor last year, it became very apparent that the editor's workload was a limiting factor for many applicants. A recent increase in manuscript submissions has required the editor to spend a significant amount of time on the review process.

In order to continue to enhance the prestige and impact of *Human Factors*, a task force appointed by the Executive Council and operating within the Scientific Publications and Communications Domain was tasked with finding ways to modify the editorial structure to allow the editor to focus on increasing the journal's visibility and impact. The following changes are currently being implemented, and Nancy has graciously agreed to serve one more year to assist in putting the structural changes in place.

First, the title "Editor" has been changed to "Editor-in-Chief" to more accurately reflect the new role envisioned for the editor. The focus of the Editor-in-Chief will be primarily on developing

and implementing strategy to increase the journal's Impact Factor, readership, and prestige.

Under the modified structure, additional Associate Editors (who will now be called "Editors") have been recruited to oversee the review of manuscripts that address topics in the Editors' respective expertise areas. The number of Editors will be flexible to enable the journal to adapt to changes in the various content areas addressed in submitted manuscripts. The Editor-in-Chief will assign new manuscripts to the appropriate Editor, who will be responsible for assigning reviewers and making acceptance and rejection decisions.

The Editor-in-Chief will concentrate on tasks such as tracking content areas of submitted manuscripts and encouraging submissions in underrepresented areas, identifying hot topics for special issues, identifying newsworthy published articles for promotional efforts such as press releases, monitoring the review process to ensure high quality and speedy turnaround time, and identifying other initiatives to strengthen the journal. Thus, the focus of the Editor-in-Chief is on the future strategic direction of the journal rather than on manuscript review.

With the combination of a new commercial publishing partner and a new editorial structure, the next Editor-in-Chief should have the freedom and resources to build on the successes of previous editors, thereby ensuring that *Human Factors* remains the premier journal of our field.

JCEDM

Submit Your *JCEDM* Manuscript Online!

HFES is pleased to announce the launch of the *Journal of Cognitive Engineering and Decision Making* Manuscript Central submission site (<http://mc.manuscriptcentral.com/jcedm>). Many authors and reviewers are already familiar with Manuscript Central because of its widespread and growing use in scholarly journal publishing, including *Human Factors* (and, soon, *Ergonomics in Design*).

Creating a user account is fast and easy. Once logged in, authors can upload and track the progress of their manuscripts until a decision is made. Reviewers can download manuscripts and submit reviews electronically at any time from any location. Online submission and review has proved highly effective in shortening the time from submission to decision by the editor, which helps to shorten time to publication.

Instructions are provided on each Web page, and additional help is available via online tutorials, customer support e-mail, and the HFES editorial office.

We welcome your submissions at <http://mc.manuscriptcentral.com/jcedm>. If you have any questions, please contact *JCEDM* Administrator Janelle Jones (janelle@satechnologies.com, 770/565-9859 ext. 5410).

Manuscripts are sought in three tracks. Details may be found on the *JCEDM* Web page, <http://www.hfes.org/Publications/ProductDetail.aspx?ProductId=64>.

Ergonomics Awareness Events at the University of Louisville

By David Burnett, President, University of Louisville Student Chapter

In recognition of National Ergonomics Month, the HFES University of Louisville Student Chapter organized a pair of ergonomics awareness events, which were cosponsored by the University of Louisville Center for Ergonomics (<http://louisville.edu/speed/ergonomics>) and Campus Health Services. Simple, everyday ergonomics tips to improve work habits and reduce the risk of musculoskeletal pain or injury were presented through interactive demonstrations and customized pamphlets. The events focused on issues relevant to college students, including backpack use, computer workstation design, and mobile computing.

College students spend a considerable amount of time using computers, and engineering students at the University of Louisville are required to use tablet PCs for many classes. To address these issues, one demonstration provided students with details about how to adjust their computer workstations to maximize comfort and efficiency while using desktop or tablet PCs. Recommendations were provided for the maximum weight of a backpack and how its load should be distributed on the shoulders and waist.

More than 100 students, faculty, and staff attended the events. Door prizes included an ergonomically adjustable desk chair and backpack. Special thanks are due to Haydee Cuevas for her help in providing the hundreds of NEM bookmarks, stickers, and wristbands, and to Naira Campbell-Kyureghyan of the University of Louisville for her mentoring and support of the chapter.

Expanding HF/E Awareness Through Games

By Ronald G. Shapiro

The more people know about human factors/ergonomics and incorporate its principles into the design of their products and systems, the better our planet will be. Thus, National Ergonomics Month (NEM) was established. A popular presentation at past HFES Annual Meetings and several NEM events is an interactive activity called "Games to Explain Human Factors: Come, Participate, Learn and Have Fun!!!" "Games" was developed to provide a tool for HF/E practitioners to use during NEM (or at other times during the year) to explain our profession to students, teachers, and other professionals. It teaches some basics about how people sense, perceive, interpret, learn, remember, make decisions, and respond. It also explains what the participants can do to incorporate ergonomics into their everyday personal, family, and professional lives.

"Games" also aims to introduce students and professionals to HF/E as a profession and to encourage practitioners to consider bringing HF/E professionals into their projects or studying HF/E themselves. "Games" is not only informative but also fun, engag-

ing audience members in games that demonstrate sensation and perception, among other things.

I presented "Games" at an April 2008 meeting of the Psychology Club at North Carolina State University, to the Girl Scouts of Rhode Island SMART program in May, and at the American Psychological Association (APA) Conference in Boston last summer. For the APA presentation, several teachers served as copresenters to encourage high school and college teachers to observe NEM in their schools. In the fall, I presented "Games" at Tufts University, Fordham University (an event that also included participants from Caldwell College and Yeshiva University High School for Girls), Shrewsbury High (MA), Barrington High School (RI), and East Greenwich High School (RI), as well as at the Documentation and Training (DocTrain) Conferences in Burlington, MA, and Indianapolis, IN.

Those who received the HFES 52nd Annual Meeting Proceedings CD-ROM in New York last fall, or who purchased it after the meeting, will find the entire 138-page PowerPoint presentation via a link in my proceedings paper titled "National Ergonomics Month: A Time for Teaching, Learning, Networking, Service, and Fun!!!" You can also request the "Games" presentation by sending me an e-mail at DrRonShapiro1981@SigmaXi.net.

Ronald G. Shapiro, PhD, serves on the HFES Executive Council and has filled a number of HFES leadership roles, including as the first chair of the National Ergonomics Month Committee. His work experience includes technical, global corporate leadership, and enterprise-wide management roles in human factors, career development, and learning at IBM.

CALL FOR PROPOSALS

Seventh Annual HPEE Meeting

By Jason Kring, HPEE President

The Society for Human Performance in Extreme Environments (HPEE) will hold its Seventh Annual Meeting at the Grand Hyatt, San Antonio, Texas, on October 18-19, 2009. The meeting will precede the HFES 53rd Annual Meeting (see www.hfes.org) in the same location.

Researchers, practitioners working in applied domains, and students are encouraged to submit proposals for lecture, poster, or discussion panel presentations. Proposals may be empirically based, theoretically based, or application-based.

HPEE defines extreme environments as settings that possess extraordinary physical, psychological, and interpersonal demands that require significant human adaptation for survival and performance. Example settings and domains include spaceflight, high-altitude aviation, and mountaineering, polar, desert, and underwater environments. In addition, we address specific occupations and activities occurring in extreme environments, such as military operations, police, firefighting, emergency response/disaster management, hazardous materials handling/disposal, search and rescue,

CALL FOR PROPOSALS, cont.

emergency medical services, and recreational activities. The deadline for proposals is *May 22, 2009*.

Registration information, including meeting times and room location, will be announced in late spring. For more information and the full call for proposals, please visit www.hpee.org, or contact us at society@hpee.org.

GRADUATE DIRECTORY

HFES Online Graduate Directory Update

The *HFES Directory of Human Factors/Ergonomics Graduate Programs* will be updated in the coming months. HFES staff will send update requests to graduate school contacts by e-mail. We invite submissions for new listings describing HF/E graduate programs in North America. The *Directory* is available online at http://www.hfes.org/web/Students/grad_programs.html. To obtain a listing application, please contact Production Editor Scott MacDonald at 310/394-1811 or scott@hfes.org.

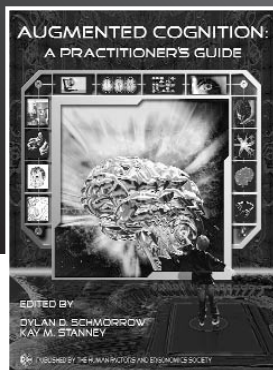
PEOPLE

Claire C. Gordon was awarded a 2008 Presidential Rank Award for Meritorious Senior Professionals. Gordon is a senior research scientist in biological anthropology at the U.S. Army Natick Soldier Research, Development and Engineering Center (NSRDEC). She has worked at NSRDEC since 1983. Gordon can be contacted at claire.gordon@natick.army.mil.

Dennis J. Folds has been named chief scientist of the Georgia Tech Research Institute (GTRI). As chief scientist, he will meet with current and prospective customers and oversee GTRI's independent research and development program. In addition to his new position, Folds will remain chief of GTRI's Human Systems Integration Division in the Electronic Systems Laboratory. He can be contacted at dennis.folds@gtri.gatech.edu.

The board of AMENCIE Consultants in San Antonio, Texas, recently elected HFES Fellow **Mark M. Brauer** president. Formerly, he was director of safety and ergonomics. He may be reached at 210/670-7943 or drmark@netscape.com.

Michael P. Tarka has been named a Lockheed Martin Fellow. This award is given in recognition of the highest levels of accomplishment and technical achievement in an individual's career. Tarka received this honor for his work focusing on the design of air traffic control systems. He can be reached at mike.tarka@lmco.com.



NEW!

AUGMENTED COGNITION: A PRACTITIONER'S GUIDE

Edited by Dylan D. Schmorow
& Kay M. Stanney

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

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

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

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

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

Edited by Nancy J. Cooke & Eduardo Salas

In this book are 30 of the best papers (selected from nearly 2,800) published in the 50-year history of *Human Factors: The Journal of the Human Factors and Ergonomics Society*. *Best of Human Factors* serves as a historical resource for HF/E professionals, a compendium of readings for graduate-level education, and a means to introduce the field of human factors/ergonomics to anyone with an interest in improving the human-system interface.

ISBN 978-0-945289-34-0, 580 pp., 6 7/8 x 10", paperback. \$115 for HFES and IEA members, \$125 for nonmembers and institutions.

NEW TWO-TITLE PACKAGE!

Save \$ when you order *Best of Human Factors* and the *Human Factors Golden Anniversary Special Issue*, published in June 2008 to celebrate the journal's 50th year. Together, these publications contain the best of the best articles, as well as reviews of pivotal papers and discoveries and developments in the HF/E field since the journal's inception in 1958.

\$145 for HFES and IEA members, \$155 for nonmembers and institutions. SAVE EVEN MORE by ordering 21+ copies for educational use for just \$135/set.

Shipping/handling fees apply; California sales tax when shipped to a CA address. Order online at <http://hfes.org/Publications> or contact HFES, P.O. Box 1369, Santa Monica, CA 90406-1369 USA, 310/394-1811, Fax 310/394-2410, store@hfes.org.

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

- Human Factors in Ship Design and Operation**, February 25–26, 2009, London, United Kingdom. Royal Institution of Naval Architects, <http://www.rina.org.uk/humanfactors09>.
- ★ **Human-Robot Interaction 2009, 4th ACM/IEEE International Conference**, March 11–13, 2009, San Diego Marriott La Jolla, San Diego, California. Association for Computing Machinery/IEEE, <http://hri2009.org/>.
- ★ **Aging in America, 2009 ASA-NCOA Conference**, March 15–19, 2009, Las Vegas, Nevada. American Society on Aging and the National Council on Aging, <http://www.agingconference.org/>.
- ★ **60th IOSH Conference and Exhibition**, March 17–18, 2009, BT Convention Centre, Liverpool, United Kingdom. Institution of Occupational Safety and Health, <http://www.ioshconference.co.uk/>.
- ASNE Human Systems Integration Symposium 2009**, March 17–19, 2009, Annapolis, Maryland. American Society of Naval Engineers, <http://www.navalengineers.org/Events/HSIS09.html>.
- ★ **Applied Ergonomics Conference and Expo 2009**, March 23–26, 2009, Grand Sierra Resort, Reno, Nevada. Institute of Industrial Engineers, <http://www.iinet2.org/Ergo/Conference/>.
- ★ **BRIMS 2009 — 18th Annual Conference on Behavior Representation in Modeling and Simulation**, March 30–April 2, 2009, Sundance Resort, Utah, <http://brimsconference.org/>.
- Include 2009 — Inclusive Design Into Innovation: Transforming Practice in Design, Research and Business**, April 5–8, 2009, London, United Kingdom. Royal College of Art Helen Hamlyn Centre, http://www.hhc.rca.ac.uk/1345/all/1/include_2009_.aspx.
- ★ **Technical Communications Summit — STC's 56th Annual Conference**, May 3–6, 2009, Hyatt Regency, Atlanta, Georgia. Society for Technical Communication, <http://conference.stc.org/>.
- ★ **80th Annual Scientific Meeting of the Aerospace Medical Association**, May 3–7, 2009, Westin Bonaventure Hotel & Suites, Los Angeles, California, <http://www.asma.org/meeting/>.
- ★ **ASQ Quality Institute for Healthcare (QIHC)**, May 18–20, 2009, Minneapolis Convention Center, Minneapolis, Minnesota. American Society for Quality, <http://qihc.asq.org/>.
- ★ **Association for Psychological Science 21st Annual Convention**, May 22–25, 2009, San Francisco Marriott, San Francisco, California, <http://www.psychologicalscience.org/convention/>.
- ★ **4th International Conference on Whole-Body Vibration Injuries**, June 2–4, 2009, Hilton Montreal Bonaventure Hotel, Montreal, Quebec, Canada. Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST), <http://www.irsst.qc.ca/en/home-vibrations-2009.html>.
- ★ **XXIst Annual International Occupational Ergonomics and Safety Conference 2009**, June 11–12, 2009, Hilton Garden Inn DFW, Dallas, Texas. International Society for Occupational Ergonomics & Safety, <http://www.iso.es.info/conference.htm>.
- 5th International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design**, June 22–25, 2009, Big Sky, Montana. Public Policy Center, University of Iowa, <http://ppc.uiowa.edu/driving-assessment/2009/>.
- ★ **NDM9 — The 9th Bi-Annual International Conference on Naturalistic Decision Making**, June 23–26, 2009, Covent Garden, London, United Kingdom. British Computer Society, <http://www.cs.mdx.ac.uk/research/idc/ndm9/>.
- ★ **8th USA/Europe Air Traffic Management Research & Development Seminar**, June 29–July 2, 2009, Napa, California. Federal Aviation Administration and EUROCONTROL, <http://www.atmseminar.org/>.
- ★ **HCI International 2009 — 13th International Conference on Human-Computer Interaction**, July 19–24, 2009, Town and Country Resort & Convention Center, San Diego, California, <http://hci2009.org/>.
- ★ **IEA 2009 — 17th World Congress on Ergonomics**, August 9–14, 2009, Beijing Jiuhua International Conference and Exhibition Center, Beijing, China. International Ergonomics Association, <http://www.iea2009.org/>.
- ★ **The Annual Meeting for the American Society of Biomechanics**, August 26–29, 2009, Nittany Lion Inn, State College, Pennsylvania, <http://www.outreach.psu.edu/programs/biomechanics/index.html>.
- ★ **Human Factors and Ergonomics Society Europe Chapter Annual Meeting**, October 14–16, 2009, Linköping, Sweden, <http://hfes-europe.org/>.
- ★ **Seventh Annual Meeting of the Society for Human Performance in Extreme Environments**, October 18–19, 2009, Grand Hyatt, San Antonio, Texas, <http://www.hpee.org/>.
- ★ **53rd Annual Meeting of the Human Factors and Ergonomics Society**, October 19–23, 2009, Grand Hyatt, San Antonio, Texas, <http://www.hfes.org/web/HFESMeetings/09annualmeeting.html>.
- ★ *Indicates new listing*

SHORT COURSES

University of Michigan, Center for Occupational Health & Safety Engineering, Continuing Education Programs. 1225 Beal Ave., Ann Arbor, MI, 48109-2117, 734/936-0148. ce.programs@umich.edu, <http://www.umcohs-education.org>. **Ergonomic Principles for Workplace Assessment and Design**, May 5–6, 2009, Grand Rapids, MI. **Human Factors Engineering Training**, July 27–August 7, 2009, Ann Arbor, MI.

Ohio State University, Institute for Ergonomics, 1971 Neil Ave., 210 Baker Systems, Columbus, OH 43210-1271, 614/292-4565. ergonomics@osu.edu, <http://ergonomics.osu.edu/>. **Putting Ergonomics Into Practice**, Spring: May 12–15, 2009, Columbus, OH. Autumn: September 29–October 2, 2009, Columbus, OH.

2007 Financial Report

The Human Factors and Ergonomics Society's 2007 audited financial report, received by Secretary-Treasurer Valerie J. Gawron in December 2007, was prepared by Castillo 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, 2007, 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 \$25,161 at January 1, 2007; at December 31, 2007 the balance was \$27,045.

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, 2007, 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, 2007**

Assets	
Cash on deposit	
Bank of America	\$828,764
Total Cash on Deposit	\$828,764
Investments	
Vanguard STAR Fund, at market value (Note 7)	\$124,963
Total assets	\$953,727

Liabilities and Fund Balance

Reserve for current payable (Note 3)	\$ 12,000
Due to TG	8,764
Payroll liabilities	109
Total liabilities	20,873
Fund balance	932,854
Total liabilities and fund balance	\$953,727

**Statement of Changes in Fund Balance – Cash Basis
for the 12 Months Ended December 31, 2007**

Balance - January 1, 2007	\$850,403
Add: Excess of revenues over expenses	85,636
Prior period adjustment	(3,185)
Balance - December 31, 2006	\$932,854

**Statement of Revenues and Expenses – Cash Basis
for the 12 Months Ended December 31, 2007**

Revenues	
Individual memberships	\$ 636,772
Sustaining memberships	12,700
Publications	553,656
HFES Institute	25,922
Annual Meeting	259,307
Placement	81,949
Net unrealized loss on investments	(449)
Miscellaneous	32,596
Total revenues	\$1,602,453

Expenses	
Publication Expenses:	
HFES Bulletin	\$ 40,350
Human Factors Journal	139,227
Directory and Yearbook	32,842
Ergonomics in Design	49,140
Books	11,169
Digital Library	20,957
Marketing	30,233
Other publication expense	19,941
Total publication expense	\$343,859

Member Services:	
Mailings expenses	\$ 17,385
Placement Service	36,161
Committee and other (Note 4)	138,925
Annual Meeting	81,488
Member Services	31,877
Computer, Web site, & related expenses	54,651
Interorganizational	26,769
Total Member Services	\$387,256

General and Administrative Expense:	
Salaries and related costs	\$620,132
Office expense	149,053
Accounting and legal	16,517
Total General and Administrative Expense	\$785,702

Total Expenses

Excess of revenues over expenses

Note 1 – Summary of Significant Accounting Policies

This summary of significant accounting policies of Human Factors and Ergonomics Society, Inc. (the organization) is presented to assist in understanding the organization's financial statements. The financial statements and notes are representations of the organization who 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, Inc. 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, 2007. This represents \$12,000 for miscellaneous payables.

Note 4 – Committee and Other

50th Anniversary	\$ 7,388
IEA Representative	2,385
Awards	3,235
Diversity	3,784
Government Relations	5,281
Outreach Advisory	31,392
Student Affairs	7,206
Miscellaneous	12,036
HFES Institute	31,584
Executive Council	34,634
	\$138,925

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 \$100,000. At December 31, 2007, there was an uninsured cash balance of \$728,764.

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.

Note 7 – Investments

The organization has the following mutual fund with the Vanguard Group.

	Cost	Fair Market Value
5,987.665 shares of Vanguard STAR Fund	\$119,536	\$124,963

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 2007, 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).

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