



CONTENTS

ANNUAL MEETING2
REGULATORY NEWS.....3
NEWS3

JOURNAL3
TECHNICAL GROUPS4
PEOPLE4
INSIDE HFES5

HFES and MESA Summer Camp Institute

*By Grayson CuQlock-Knopp,
Chair, Diversity
Committee*

The HFES Diversity Committee and the Maryland Chapter of the Mathematics, Engineering, and Science Achievement (MESA) program conducted a five-week summer camp for young students. MESA is a precollege program that prepares students, particularly minority students, for university study in the fields of mathematics, science, and engineering. By expanding MESA's previously established summer program to include human factors-related lectures, field experiences, demonstrations, and projects, the camp encouraged students to take the prerequisite courses needed for successful university study in human factors. This article describes the 2001 MESA and HFES Summer Institute.

Students gained admission to the camp based on three criteria: a demonstrated interest and achievement in science and mathematics, the recommendation of the student's science or mathematics teacher, and an essay explaining the student's interest in the program. Forty-two ninth- and tenth-grade students from the city of Baltimore and surrounding Maryland counties were accepted. Two Baltimore teachers, three college students, and one high school senior supervised the students at the camp.

Most camp activities were held at the Engineering School of Morgan State University in Baltimore. This location provided the additional bonus of NASA's Aeronautical Education Laboratory (AEL); students were able to spend time completing assignments at AEL's computerized workstations. At these workstations (meteorology, virtual reality flight, wind-tunnel control, remote sensing, GPS and amateur radio communication, Internet/World Wide Web, aircraft design, and aeronautics interactive), students obtained the information needed to plan a flight across the United States.

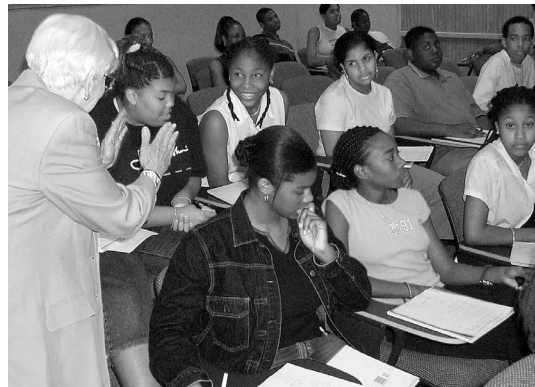
The instructional part of the camp began with an introduction to the field of human factors by HFES member Ronald Shapiro (IBM Corp.) and Raquel Shapiro (Rhode Island College). During this interactive session, entitled "Games to Explain Human Factors," Shapiro taught students fundamental psychological principles and demonstrated how knowledge of human capabilities and limitations should direct design. This session will be described and reenacted at the HFES Annual Meeting in Minneapolis on Wednesday, October 10 (Special Session 3).

Individuals attending the meeting are invited to participate in this session. See the Annual Meeting program for details.

Other speakers provided background instruction and demonstrations in topics critical to human factors: Joseph Knapik (U.S. Army Center for Health Promotion and Preventive Medicine) discussed anthropometry; Kimberly Myles (U.S. Army Research Laboratory) spoke about biomechanics; Joel Kalb (U.S. Army Research Laboratory) discussed sound propagation, speech intelligibility, and hearing loss from impulse noise; Betty Sanders (Humanomics, Inc.) talked about usability testing; Linda Mullins (U.S. Army Research Laboratory) discussed stress and stress assessment; Reginald Hobbs (Georgia Institute of Technology) spoke about human factors issues for computer design and use; and Grayson CuQlock-Knopp (U.S. Army Research Laboratory) discussed human factors issues in night vision.

During the second week of the camp, students were given the task of applying the human factors principles they had learned to the design of a carrier to be worn on the body. The carrier was to be designed to accommodate one of six

(continued on page 5)



Raquel Shapiro discusses the relationship between psychology and design with a group of students.

Election Results

The ballots have been counted, and the following individuals have been elected to serve three-year terms on the HFES Executive Council beginning in October 2002.

President-Elect

Barry H. Beith
President, HumanCentric Technologies

Secretary-Treasurer-Elect

Mica R. Endsley
President, SA Technologies

At-Large Executive Council Members

Richard J. Hornick
President, Hornick & Associates

Nancy Lee Johnson Larson
Corporate ergonomics manager, 3M Company

Charles Jeffress to Present Keynote Address

Former Assistant Secretary of Labor for Occupational Safety and Health Charles N. Jeffress will present the 45th Annual Meeting keynote address, entitled "Workplace Ergonomics: Where Do We Go from Here?" The presentation will be given during the opening plenary session on Tuesday morning, October 9.

Jeffress, who is now a management consultant, will address efforts to regulate workplace ergonomics and prospects for the future. He will touch on ergonomics activities in American corporations and in other nations and will discuss the technical challenges facing those who desire to see an OSHA regulation on the subject. He will emphasize that common agreement is needed on which job tasks present recognized hazards for musculoskeletal disorders.

During his tenure at OSHA (1997–2001), Jeffress managed a staff of 2200 and a budget of \$384 million. He achieved congressional passage of the first major amendments to the Occupational Safety and Health Act and established an educational arm of OSHA. He created the Office of Strategic Partnerships within the agency, negotiating partnerships with groups such as Ford Motor Company, the Association of Building Contractors, and the Joint Commission on Accreditation of Health Care Organizations. Prior to his position at OSHA, Jeffress was North Carolina's deputy commissioner of labor and director of OSHA.



Items Wanted for Daily Newsletter

The HFES 2001 newsletter/on-site information editors are now accepting items for publication in the annual meeting newsletter, HFES2001News. Send your submissions to us at HFES2001News@hfes.org.

Topics may include descriptions of demonstrations, previews of panels, TG special session information, invited speakers, "Birds of a Feather" gatherings, recommendations for "Web Site of the Day" (resources to explore after the meeting), upcoming events, and other announcements.

The first issue is being assembled, and e-mail submissions are encouraged. If you would like to submit an article or help with the newsletter, send e-mail to HFES2001News@hfes.org. For other newsletter questions, please contact Newsletter Chair Jeff Lewin at Seagate Technology, 7840 Computer Ave. S., Bloomington, MN 55435; 952/844-8649; fax 952/844-5980; Jeffrey.E.Lewin@Seagate.com. Electronic submissions are preferred. If faxing, please use large sans serif fonts.

If you are interested in advertising in the newsletter, please contact HFES Communications Director Lois Smith at 310/394-1811; lois@hfes.org.

On-Line Access to Program Updates

The HFES 2001 45th Annual Meeting will offer a new avenue for obtaining information about changes to the program: on-line access. This feature will be offered through the HFES Upper Midwest Chapter Web site, <http://www.UpperMidwestChapter-HFES.org>.

Simply click on the "Changes to Program" button on the front page of the site to access this information. All information about changes to the annual meeting program should be submitted to on-site newsletter editor Jeff Lewin, HFES2001News@hfes.org.

The site also contains a variety of other information about the upcoming meeting.

Accessibility Colloquium Invitation

Attendees of the 45th Annual Meeting are invited to participate in a colloquium on October 11 to address the impact of the increased focus on providing equal access to electronic and information technologies (E&IT). Participants will discuss how human factors professionals can help bring affected products and organizations into compliance and identify strategies for addressing accessibility and its cost-effectiveness in future IT development efforts.

Colloquium participants should possess basic knowledge of accessibility issues (e.g., disabilities and how they affect E&IT designs) and be familiar with the regulatory environment.

To participate, please send a brief statement indicating your interest and intended contributions to Paul Sherman at paul@austinusability.com or paul.j.sherman@home.com.



Bulletin

Volume 44, Number 9 September 2001

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

Copyright © 2001 by the Human Factors and Ergonomics Society. Printed in the USA. The *HFES Bulletin* is provided to members of the Society (\$10 of annual dues covers member subscriptions); nonmembers may subscribe for \$40/year. Periodicals postage paid at Santa Monica, CA, and additional mailing offices. USPS #018-206.

Although the federal ergonomics standard was defeated in March of this year, repercussions are still being felt nationwide. Recent events include the following:

- A series of public hearings on ergonomics hosted by OSHA and the Department of Labor included forums focusing on three areas: how to define an ergonomic injury, how to determine its relationship to work, and how employers should respond. The hearings were held in Washington, D.C., on July 16; Chicago on July 20; and Stanford, California, on July 24. Organized labor groups protested the lack of injured worker testimony at each of the forums.
- On March 6, the commissioner of North Carolina's Department of Labor dismissed that state's own standard, rendering it void "because it was promulgated prior to the effective date of the federal ergonomics program."
- On July 19, the Cal/OSHA Standards Board denied the California Labor Federation's petition to reopen the ergonomics issue.

Source: Cal-OSHA Reporter, Vol. 28, No. 31, pp. 7633-7638.

New OSHA Head Appointed

On August 3, John L. Henshaw was confirmed as the new Assistant Secretary of Labor for Occupational Safety and Health. Henshaw previously served as director for environment, safety, and health at Astaris LLC, a chemical company located in St. Louis, Missouri. Henshaw has worked in the safety and health industry for more than 26 years. He earned a master's degree in public health in 1974 from the University of Michigan. ☒

Call for Medical Design Award Entries

The fifth annual Medical Design Excellence Awards program, presented by Canon Communications, recognizes innovation in medical product design and engineering. Applications are now being accepted in 10 categories, including critical care and emergency products, finished packaging, general hospital devices and therapeutic products, over-the-counter self-care products, and rehabilitation and assistive-technology products. HFES is a cooperating society for this award program. The deadline for submissions is *December 17, 2001*. For more information, contact Andrea Margules, Canon Communications LLC, 11444 W. Olympic Blvd., Los Angeles, CA 90064-1549; 310/996-9497; <http://www.mdeawards.com>.

Exploring Behavior Week

As part of the Decade of Behavior, the American Psychological Association has designated October 15-19 as "Exploring Behavior Week." HFES members are encouraged to participate in this outreach program by visiting secondary school students and introducing them to the diverse opportunities available in the psychology field. Outreach materials are available on line, including a ready-to-use lesson plan template consisting of an instruction booklet and a slide show. Visit <http://www.apa.org/science/ebw.html> to download materials; for more information, contact Keren Yairi, APA, 750 First St., NE, Washington, DC 20002-4242; 202/336-6166, fax 202/336-5953; dob@apa.org.

New Book on MSDs

Musculoskeletal Disorders and the Workplace: Lower Back and Upper Extremities presents the latest information on the prevalence, incidence, and costs of musculoskeletal disorders and identifies factors that influence injury reporting. The book examines the scientific basis for connecting musculoskeletal disorders with the workplace, considering people, job tasks, and work environments.

You can read the book free of charge on line at <http://www.nap.edu/catalog/10032.html>. Copies are available for \$59.95 through the National Academy Press Web site at <http://www.nap.edu> or call 888/624-8373. ☒

Call for Journal Special Section Papers

By Michael Trimmel, Nicola Ann Wright, and Richard W. Backs, Special Section Editors

Manuscript submissions are invited for an upcoming *Human Factors* special section, "Psychophysiology in Ergonomics." The special section will be devoted to the usage of psychophysiological methods in the domain of human-machine systems. Appropriate papers may take a number of diverse forms, including empirical research featuring innovative methods; papers that use traditional psychophysiological methods to contribute to the ergonomic design or evaluation of human-machine systems; theoretical, empirical, and application-oriented papers; and debates among proponents of different well-established approaches. Of special interest is empirical research that features innovative methods or substantial contributions related to applied psychophysiology in ergonomics.

Please submit five copies of your manuscript by *October 31, 2001*, to Editor, *Human Factors*, "Psychophysiology in Ergonomics," P.O. Box 1369, Santa Monica, CA 90406-1369. Contact Michael Trimmel at michael.trimmel@univie.ac.at if you have any questions. ☒

New Mock Trial Video

The HFES Forensics Professional Group is pleased to announce the release of the new two-video set, "Mock Trial: Human Factors of Adaptive Cruise Control, Parts I & II." The mock trial, organized and chaired by HFES members Ian Noy and Alison Vredenburg, was presented during the International Ergonomics Association XIVth Triennial Congress/Human Factors and Ergonomics Society 44th Annual Meeting, held July 30–August 4, 2000, in San Diego, California.

This video, aimed at educating audiences concerning forensics, automobile safety, and human factors design issues, presents a fictitious case to demonstrate the human factors issues concerning an advanced automobile technology: adaptive cruise control (ACC). The case involves a car with an ACC system colliding with another vehicle. Design issues and user behavior are discussed. The first tape contains testimony from the plaintiff's expert, and the second tape includes testimony from the defense expert. Both tapes include commentary from participants who discuss key aspects of the litigation process.

The video will be useful in courses on law, human factors, safety, and industrial engineering/psychology. It is also appropriate for presentations to automobile manufacturers at professional meetings addressing vehicle safety or human factors/ergonomics design.

The presentation features Rudolf Moritmer as the plaintiff's expert and Kenneth R. Laughery, Sr., as the defense expert. Richard Hornick, David Thompson, and Richard Olsen are the commentators. Three participating attorneys play the roles of plaintiff (Barbara Savaglio) and defense attorney (Patricia Ryan) and presiding judge (James R. Spangler).

HFES members may purchase the set for \$60 plus \$7 shipping/handling; the nonmember price is \$110 plus \$12 shipping/handling (add \$5 to the shipping charges if mailed outside the U.S.; add sales tax if mailed to California addresses). The videos may also be rented for 15 days (\$35 members, \$60 nonmembers). To order, contact HFES at 310/394-1811, fax 310/394-2410, info@hfes.org.

Virtual Environments: New Applications, New Issues

By Steve Murray, Virtual Environments Program Chair

Three lecture sessions, an eclectic set of posters, and a cosponsored panel session will showcase both the creativity and maturity of virtual environments at the 45th Annual Meeting. The Virtual Environments Technical Group lecture sessions offer topics of interest to both researchers and practitioners, including usability (e.g., spatial knowledge acquisition and navigation), visual displays (e.g., teleoperation and stereoscopic augmented reality), and presence effects (e.g., simulator sickness and habituation). Posters that address new work in team performance, unique applications of VE technologies, and other topics complement these sessions. In addition, the VETG and PPTG are cosponsoring a distinguished panel session on the use of virtual environments for multimodal training. ☉

Neville Moray has retired from his academic appointment at the University of Surrey. He will continue to lecture and consult occasionally. He can be reached at 17, Avenue des genets, 06520 Magagnosc, France or at moray2@wanadoo.fr.

Alan D. Swain was given the George C. Laurence Pioneering Award by the American Nuclear Society Installations Safety Division on June 20. Swain received the award for his pioneering contributions to the advancement of nuclear safety in the field of human reliability analysis and for introducing its application to the probabilistic safety assessment of nuclear power plants. He can be reached at 361/727-0430 or swain@2fords.net.

John Lyman, professor of engineering and psychology at UCLA, founding member of the Human Factors Society in 1957, and Society president from 1967 to 1968, died of pancreatic cancer at his home in Sherman Oaks, California, on May 3. He was 79.

John was a mentor, inspiration, and good friend to many HFES members. After earning bachelor's and master's degrees in psychology from UCLA, he worked during the first part of World War II at Lockheed Aircraft and then served as a naval officer. He returned to UCLA to complete his Ph.D. in psychology and subsequently began teaching psychology there in 1947. Soon, however, he was recruited to help run the interdisciplinary Biotechnology Laboratory in the UCLA School of Engineering, one of the nation's first human factors labs in academe. (UCLA had no separate departments of different engineering disciplines at the time, an arrangement that suited John's broad interests in humans and technology.) From 1958 to 1980 he directed that laboratory, specializing in human sensorimotor skill, effects of high-temperature environments, and prosthetic limbs.

John was also a visiting professor at Delft University of Technology in the Netherlands and played a key role in several high-tech company startups, including Perceptronics and MegaGraphics. John was a fellow of the American Psychological Association, the Society of Engineering Psychologists, the American Association for the Advancement of Science, and HFES. He served on the HFES Executive Council for three terms and chaired several important committees in those early years. For his many contributions, HFES awarded him both the Paul Fitts Award and the President's Distinguished Service Award.

To those who knew him well, John was a large man – in gusto and bonhomie, in humor and in size. He was a gourmet and a gourmand and a superb cook. One always enjoyed talking with John, sometimes wildly, about an infinite variety of topics and, best of all, in his kitchen over margaritas. John was also a technophile and took great pleasure in discussing the technological gadgets in his lab or at home. Most of all he was a warm, generous, and gentle friend.

John is survived by his son, John; his daughter, Wendy; and his companion of many years, Dolores Yonker.

—*John Senders and Tom Sheridan* ☉

The human factors community suffered a great loss on July 9 when **Rolf J. Braune** died of complications related to cancer. He was 48.

Rolf earned his Ph.D. in human factors/engineering psychology in 1986 from the University of Illinois, Urbana-Champaign, under the direction of Christopher Wickens. He later worked for Boeing as a crew system analyst on the B7J7 program. Rolf then moved on to the flight deck research group, where he became senior scientist and technical lead. In 1992, Rolf became a Boeing test pilot, supporting flight testing for fixed-wing aircraft and helicopters. He returned to research and development in 1996 to provide human factors support for high-speed civil transport research and the B767-400 program.

During his career, Rolf made many contributions to our understanding of timesharing, multitasking, task management, and human performance in the cockpit, authoring more than 75 publications. Aside from being an outstanding scientist, engineer, and pilot, Rolf was a man who loved the earth, sea, and sky; a man who loved dogs, and horses; and a man who loved people. We greatly miss him.

— *Kenneth H. Funk II*

INSIDE HFES

Consultants Directory Growing

The On-line Directory of Human Factors/Ergonomics Consultants, launched in February, now has 70 individual and company listings. It has proved an indispensable tool for the central office staff, who refer inquiries regarding consultants and expert witnesses to the on-line directory. It can also be a time-saving resource for members who are seeking other members with particular expertise.

If you are a full Member of Fellow and would like to place an individual or company listing, please visit <http://hfes.org> for more information (or contact Lois at 310/394-1811; lois@hfes.org). ☒

Summer Camp Institute (continued from page 1)

types of objects: textbooks, a laptop computer, shoes, a bowling ball, skates, or newspapers. Students were taught how to incorporate into their design factors such as the impact of physical load on body parts, muscle groups, bones, and tendons, and the distribution of the load across the muscle groups. This project was one of five design projects that students completed during the camp.

In addition to the lectures, demonstrations, and projects, students visited several workplaces where they could observe science in action. At the Baltimore-Washington International Airport

(BWI), a human factors lesson in aviation began with a presentation by Dino Piccione (HFES Potomac Chapter; FAA). Using some of the exhibits at the airport, he presented a basic explanation of cockpit layout and primary pilot tasks. Next, to describe the role of air traffic control (ATC), students took an imaginary trip from Chicago to BWI and learned how pilots and controllers interact in the various types of ATC facilities.

Later in the day, Rex Chase, FAA Support Manager at the BWI ATC tower, outlined the career path for an air traffic controller and described the lifestyle of a controller. The students were given a tour of the BWI tower and the Terminal Radar Approach Control (TRACON). Students had the opportunity to view the TRACON radar display screen and were given an orientation about the various symbols and representations on the display.

The students also toured the Center for Devices and Radiological Health (CDRH), a visit arranged by Susan Meadows, a Diversity Committee member and scientist with the FDA's Division of the Device User Program. The day began with a welcome and an overview of CDRH and its laboratory programs. Students completed three main activities during their visit to CDRH: They heard and participated in a discussion and demonstration of an infusion pump, saw a demonstration of electromagnetic interference, and observed a laboratory demonstration of the methods for measuring UV radiation.

Students visited the Conowingo Hydroelectric Plant on the Susquehanna River in Maryland and learned about hydroelectric energy, completed a hard-hat tour of the Conowingo Dam, and heard a lecture about the shad restoration project. Other science-related field trips included lectures at the Uniform Services University Medical Simulation Center and visits to science museums, such as the National Air and Space Museum and the Maryland Science Center.

The camp ended with a closing ceremony, during which students presented posters depicting their activities at the camp. A highlight of the closing ceremony was the presentation of their human factors design project – the design of six types of carriers. The students displayed the carriers during the ceremony and gave an excellent, thorough discussion of the human factors issues they considered in their designs.

Of the 42 students initially enrolled in the camp, 40 completed the program. At the program's end, many of the students expressed interest in completing science fair projects that address human factors, as well as pursuing university study in a field of human factors. One of the college students has decided to gear her senior engineering project to a topic related to the field.

The Diversity Committee thanks the sponsors and supporters of the camp: HFES, the Maryland MESA Organization, U.S. Army Research Laboratory, Maryland State Department of Education, Morgan State University, National Capital Area Medical Simulation Center, Federal Aviation Administration, IBM Software Group, U.S. Food and Drug Administration, U.S. Army Center for Health Promotion and Preventive Medicine, U.S. Army Research Office, and Conowingo Hydroelectric Plant staff.

If you are interested in the program, please contact Grayson CuQlock-Knopp at 410/278-5988; vgrayson@arl.army.mil. ☒

Bulletin

Volume 44, Number 9 September 2001

Communications Director: Lois Smith
Student News Editor: Melanie Diez
Editorial Assistant: Den'Al McElhiney
Advertising: R. C. Bublitz & Associates,
818/992-0366

POSTMASTER:

Send address changes to the HFES Bulletin,
Human Factors and Ergonomics Society,
P.O. Box 1369, Santa Monica, CA 90406-1369 USA,
310/394-1811, fax 310/394-2410.

General Information: info@hfes.org
Editorial/Advertising: lois@hfes.org
Placement Service: placement@hfes.org
Annual Meeting: lois@hfes.org

Opinions expressed in BULLETIN articles are those of the authors and should not be considered as expressions of official policy by the Human Factors and Ergonomics Society.



Human
Factors
and
Ergonomics
Society

P.O. Box 1369
Santa Monica, CA
90406-1369 USA

FLASH!

Changed your address lately?
Please send details to HFES,
P.O. Box 1369, Santa Monica,
CA 90406-1369 USA or update
your listing on line at <http://hfes.org>. Thank you!

**HFES 45th Annual Meeting:
October 8-12, 2001, Minneapolis,
Minnesota**

**Nominate yourself or a colleague
for HFES Fellow. Details to
come in the October issue.**

PERIODICALS
POSTAGE PAID
AT
SANTA MONICA, CA
AND ADDITIONAL
OFFICES