

Aging Technical Group

Winter 2004

Message from the Chair

Darin Ellis
Aging TG Chair

Well, here goes! I am excited to be the new Chair of our Aging Technical Group, and look forward to serving you. Elections took place, as noted by our immediate past-chair Don Lassiter, 'Soviet-style:' That is, the slate of officers to be pressed into service were unchallenged on the write in slot, and we were unanimously elected. I choose to interpret the low response as a vote of confidence, rather than a threat to the validity of a democratic process.

Message from Chair – continued page 3

Early Deadline for HFES Conference Submissions

Randa Shehab
2004 - Program Chair
Assistant Professor, University of Oklahoma

As the ATG program chair for the HFES 48th Annual Meeting, I would like to encourage each of you to start thinking about your proposals for this conference. The 2003 program was very good so lets continue the trend of high quality presentations. The call for proposals will be issued by mid-December and the due date for the

Program -- continued on page 3

Research and Training Profiles in Human Factors and Aging

C.T. (Chip) Scialfa
Perception, Aging and Cognitive Ergonomics Program
University of Calgary

Although there are several sources that provide information on training and research opportunities in human factors and ergonomics, the data base for those interested in aging is less organized. This is part of a series of profiles that will describe the facilities, scientists, research opportunities, and training environments at North American institutions. If you would like to have your institution included in this series, feel free to contact me (scialfa@ucalgary.ca). I'll be happy to "spread the word".

Canadian Institutes of Health Research

Strategic Training Program in Communication and Social Interaction in Healthy Aging

Most readers of this newsletter are well aware that training opportunities in aging and human factors are by no means plentiful. The challenges to providing advanced training in the area are magnified in Canada, the largest country in the world and one of the least densely populated. The combined forces of geography and demography make it unlikely that, within a single academic institution, a student will be able to receive advanced training in such areas as sensation and perception, cognition, human factors and methodology that are essential for high-quality human factors work with the elderly. Acknowledging these obstacles, the Canadian Institutes of Health Research, along with the Institute on Aging and the Institute of Gender and

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- PLUS Calendar of Events, Website Announcements

Graduate Students Shine in ATG Paper Session

Frank Schieber
Professor, University of South Dakota

It was a distinct pleasure to serve as moderator of the ATG's lone technical paper session at the recent HFES Annual Meeting in Denver. Don Morrow (University of Illinois) opened the session with a paper describing a preliminary study of patient comprehension of the instructions accompanying prescription medications. Compared to existing instructions used by a leading drug store chain, alternative instructions engineered by Morrow and his team using "patient-centered" design techniques appeared to improve comprehension among 32 chronic heart disease patients. Dr. Morrow suggested that strategic use of high-salience graphic images appeared to be especially efficacious.

The remaining three papers in this session were delivered by Georgia Tech students supervised by Wendy Rogers and/or Dan Fisk (future and past presidents of HFES, respectively). Julian Sanchez (et al.) described a preliminary study that used structured interviews to collect and classify strategies employed by older persons to enhance their adherence to medication schedules. Although this was a small-scale study (N=9), the rich set of findings suggested much promise toward the development of a taxonomy of strategies in this increasingly important behavioral domain. Next, Tracy Mitzner (et al.) described the complex relationship between age, semantic context and luminance contrast when reading "degraded" text messages. Her work appears to establish important boundary conditions over which knowledge can be used to compensate for perceptual level noise.

The session was concluded with a paper presented by Ann McLaughlin (et al.). She described the influence of age and task-related attentional demand upon the efficacy of direct versus indirect input devices within the context of simple GUI controls. Perhaps the most important aspect of this study was the careful (and successful) manipulation of the trade-off in task priority given to the primary (GUI control) versus secondary ("catch the falling dots") tasks. After hearing her presentation there was little doubt that she was a deserving recipient of this year's Arnold Small Award (for best student paper).

Graduate Students Shine - continued

In closing, I'd like to acknowledge the expert assistance of Daryle Gardner-Bonneau who served as co-chair of this session. Finally, I'd also like to acknowledge the outstanding level of preparation and professionalism demonstrated by all of the student presenters. Their mentors were no doubt proud of their performances.

Frank Schieber

Arnold Small Award

It was a repeat performance of HFES Conference - 2002 in Denver Co where the Arnold Small Award was again presented to Anne McLaughlin from Georgia Tech for her paper titled "Effects of Attentional Demand of Input Device Use by Young and Older Adults" (with co-authors Wendy Rogers and Dan Fisk). Her research focused on how direct and indirect input devices affected performance under different attentional conditions and the moderating effects of age on input device usability. They found that age and attention allocation were needed to predict usability of an input device. With more attention available, the indirect input device yielded higher performance regardless of age. Though the performance was more variable, the direct input device outperformed the indirect device when very little attention was available. Older subjects showed similar ability to younger subjects for the pointing tasks using the direct device: however, precision task performance using the direct input device dropped with age. The results of the study also frames guidelines for future system design.

Congratulations Anne McLaughlin! Are we looking for a three-peat?

Her research was funded by Deere & Company and NIOSH (National Institute on Aging).

Winner Bios:

Anne McLaughlin's research includes designing training for medical systems and devices, as well as research on input devices and attention.

Message from the Editor

Sharon Joines
Newsletter Editor
The Ergonomics Center of North Carolina, NC State University

It is my pleasure to accept the challenge of serving as editor of the Newsletter for the Aging Technical Group. The American population is undergoing a profound change; within the next ten years the first of the baby boomers will turn 65. The resulting shift in the average age of the population will affect every aspect of our society. And we in the Aging Technical Group are preparing ourselves to identify and meet those needs.

Assistant Secretary for Aging, Josefina Carbonell, at the AoA Summit (10/09/03) noted that "The number of Americans age 65 and older will more than double to over 70 million by 2030. At that point, the entire country will have the concentration of older people now found in the State of Florida. ALL of our major social, economic and political institutions will have to respond to this demographic imperative – including our health and long term care delivery system. The baby boomers' expectations are going to be different. Baby boomers are going to be more used to having choices at their disposal and more used to exercising their independence. Baby boomers will want to maintain active and meaningful lives into their later years – they will not be complacent!"

As members of the Aging Technical Group, we are among the leaders in the nation in identifying solutions for the problems the aging population will face. We must address facts, collect data, dispel myths, and tap the knowledge and expertise of older Americans.

I encourage you and your colleagues to contribute articles, blurbs, highlight achievements, and/or provide general information for inclusion in the next issue.

Deadline for submission is March 19, 2004.

Message from Chair – continued from page 1

I have a 2 year term and I urge all of you to start considering now the opportunity to serve as Chair or another position in the TG.

I would like to thank Don Lassiter for his steady hand of leadership the last 2 years, and to further thank him on a personal level for his mentorship. Thanks, Don!

In the other offices, Randa Shehab (University of Oklahoma) is now our Program Chair for 2004, and Chris Mayhorn (NC State) is our Program-Chair Elect (to serve as Program Chair in 2005). Linda Miller (EWI, Alberta CA) is our Secretary/ Treasurer. And finally, it is with great relief that I hand the reins over to Sharon Joines as our new Newsletter Editor (THANK YOU SHARON)!

On behalf of all the officers and myself, we look forward to serving you.

Darin Ellis — Aging TG Chair

Conference Submissions -continued from page 1

proposals is February 9, 2004. I am hoping that we can increase the number of submissions this year so we can start working towards acquiring an additional session in the program.

Please be creative in thinking about the format of your presentation as the national office is encouraging the use of alternative formats. Also, remember to consider submitting student research for the Arnold Small award. Single-authored student papers can be submitted for the Alphonse Chapanis award. I am looking forward to receiving all of your submissions!

Don't forget that I will be looking for people to review the proposals. If you are willing to serve in this capacity, please email me at rlshehab@ou.edu. Otherwise, I soon may be contacting you!

The Call for Proposals can now be found on-line at the HFES web site :

<http://hfes.org/Meetings/AM04Call.html>

Happy New Year!

Randa Shehab

15TH TRIENNIAL CONGRESS OF IEA

Cheryl Bolstad
SA technologies

This summer (August 24th – 29th) the 15th Triennial Congress of the International Ergonomics Association took place in Seoul, Korea. The conference was held in conjunction with the 7th Joint Conference of Ergonomics Society of Korea and Japan Ergonomics Society. The conference attracted researchers from all over the world. However, the majority of the attendees and presenters were either from Japan or Korea. Similar to our HFES conference, the IEA conference sessions are also broken down into technical groups. Four separate Aging technical sessions were held with a total of 23 papers. If one summarizes the presentations it would be said that the papers primarily reflected a work related theme and focused heavily on biomechanics. In addition to the paper sessions, 14 posters were presented in the aging technical area.

SESSION 1

Does Driving Slower Compensate for Age-Related Cognitive Changes? Cheryl Bolstad

The Behavioral Analysis of Pedestrian by Information Cognition of Traffic System. Son Joo-hee

A Conceptual Study of Prospective Audio Reminder as Cognitive Support for Elderly Adults to Achieve Medication Compliance. Fang Chen

The Effects of Visual Field on the Impression of Walking Space: Considerations of the Age Differences Between Young and Elderly Subjects. Nana Itoh

Age-Oriented Work Models for Different Branches. Manfred Rentzsch

SESSION 2

Effects of Chronic Back Pain on Ability to Tolerate Sustained and Cyclical Trunk Flexion. William Keyserling

Biological Age and Cardiovascular System Work in Electricity Distribution Network Controllers. Natalia Bobko

Session 2 (cont.)

Cardiovascular Risk in Older Operators in Broadcasting and TV Stations in Bulgaria. Katia Vangelova

Age-Adjusted Shift Time Reform in Industrial Workers in two Chemical Plants. Rudolf Karazman

Simple Tasks in the Food Industry as a Risk Factor in the Carpal Tunnel Syndrome. Joanna Bugajska

Generation and Gender Difference in Joint Torque in Japanese Healthy People. Seiichi Hisamoto

SESSION 3

Age-Conform Career Models in Hospital Nurses for Sustaining Knowledge and Quality, Work Interest and Workability. Rudolf Karazman

An Ergonomic Study on Rising-Aided Apparatus Design for the Chronically Bed-Ridden Suffers. Hsin-His Lai

Quality of Life and Gerontechnology: An Applied Project of a Night-Table for the Elderly User. Maria Rita Pinto

Proposal for a Walk-Training Support System for Hemiplegia. Chikamune Wada

Nursing Personnel of Night Schedule at University Hospital and Work Ability. Preliminary Results. Maria Ines Monteiro-Cocco

Work Ability Among Cleaning Workers at University Hospital-Campinas, Brazil. Maria Ines Monteiro-Cocco

SESSION 4

Stress Factors Predictive of Early Pension or Staying at Work in Professional Cleaning Work, a 11-year Follow-Up or General. Leila Hopsu

Determinants of Perceived Strain of Fire Fighters: A 3-year Follow Up. Veikko Louhevaara

A Proposal on Evaluation Method for Lifetime Homes Based on Building Standards in United Kingdom. Akiko Mori

Identifying Needs Structure of Older Adults for Design of Smart Home. Ming Kow Yong

Proposal of Mobile Audiometric Measuring System by Using Mobile Phones. Norio Nakamura

Work Ability Among Information Technology Company Workers. Maria Ines Monteiro-Cocco

Health have provided long-term funding for an exciting training and research experience, The Strategic Training Program in Communication and Social Interaction in Healthy Aging.

The overarching purpose of the program is to provide graduate and post-doctoral students with trans-disciplinary training in experimental aging research and to learn how basic research can be applied to real-world problems of communication and social interaction among this growing segment of the population. Faculty mentors from six Canadian universities and colleges provide expertise in vision science (Pat Bennett, McMaster; Jocelyn Faubert, Université de Montréal; Allison Sekuler, McMaster; Chip Scialfa, Calgary), hearing sciences (Jean-Pierre Gagné, Université de Montréal, Kathy Pichora-Fuller, University of Toronto at Mississauga and Bruce Schneider, UTM), cognition (Meredyth Daneman, UTM; Karen Li and Natalie Philips, Concordia), Social Interaction (Pat Spadafora, Sheridan College), and Engineering/Human Factors (Hans Kunov, UTM; Chip Scialfa, Calgary).

While most of these mentors are well-known for their research programs in basic science, their applied interests are varied and substantial. These include the development and testing of a visual hearing aid, the use of Clear Speech to facilitate oral communication, age differences in distraction effects while driving, facilitating web navigation, and the use of technology to help older people use their hearing aids well.

How is training provided across this diverse and widely separated group? At three times each year, faculty and students gather for intensive workshops in substantive areas of research interest. In the past year, the group has held week-long workshops in vision and audition at the Université de Montréal and workshops of similar length in social interaction (Sheridan College) and Cognitive Assessment (UTM). During these meetings, students get hands-on experience with the commonly used experimental and clinical tools in the area and work collaboratively to determine how their research can be strengthened by using these tools. For example, the workshop in audition introduced students to the techniques used in assessing hearing, while the cognitive assessment workshops dealt with commonly used measures of attention, memory and executive control.

In addition to these group training experiences, students are required to carry out research with

someone outside of their primary lab. Thus, one student who from biomechanical engineering is working in an auditory psychophysics lab to develop and test simulations of auditory aging. The intent of this requirement is to broaden the student's experience and develop facility in collaboration and communication across the disciplines.

The laboratory resources available to student trainees are world-class, including traditional research environments for studies of visual and auditory perception, the University of Calgary Driving Simulator, facilities for studying locomotion and postural stability, speech communication labs, eye movement systems and virtual environments. Perhaps one of the most exciting research opportunities exists at the Senior Elder Research Centre of Sheridan College. Funded by substantial infrastructure grants from the several provincial and national sources, SERC will provide a unique environment for applied research into areas of practical concern and immediate relevance to older Canadians and those who care for them. Current projects include assessing icon comprehension in community-dwelling elders, developing training for web designers who work with older users and building educational tools for those who wear hearing aids.

If you know of students who might be interested in becoming a trainee in this program, please contact one of the faculty mentors. For contact and other information about the program, you can go to:

www.erin.utoronto.ca/%7Ew3grtp/index.htm

If you would like more information about the Canadian Institutes of Health Research or the Institute on Aging, the web sites are:

www.cihr.gc.ca/

www.cihr-irsc.gc.ca/e/institutes/ia/

NIH Launches NIHSeniorHealth.gov

The National Institutes of Health (NIH) launched NIHSeniorHealth.gov (www.nihseniorhealth.gov), a new talking web site with formats and topics tailored to the needs of older people. The senior friendly site takes advantage of techniques developed by the National Institute on Aging (NIA) and the National Library of Medicine (NLM) designed to encourage older people to use the Internet, and this site in particular, as a resource for the best information on health and medical research.

CALENDAR OF EVENTS

55TH ANNUAL SCIENTIFIC MEETING
OF THE GERONTOLOGICAL SOCIETY OF AMERICA

SAN DIEGO, CA

NOVEMBER 21-25, 2003

http://www.eshow2000.com/geron/about_the_meeting.cfm

COGNITIVE AGING CONFERENCE

GEORGIA INSTITUTE OF TECHNOLOGY

ATLANTA, GA

APRIL 1-4, 2004

[HTTP://WWW.COS.GATECH.EDU/CAC/](http://www.cos.gatech.edu/cac/)

ANNUAL MEETING, ASSOCIATION FOR GERONTOLOGY IN
HIGHER EDUCATION

26 FEBRUARY 2004

RICHMOND, VIRGINIA, UNITED STATES

[HTTP://WWW.GERON.ORG/](http://www.geron.org/)

25TH ANNUAL MEETING OF THE SOUTHERN
GERONTOLOGICAL SOCIETY

1 APRIL 2004

ATLANTA, UNITED STATES

CONTACT E-MAIL: LGAGE4SGS AT AOL.COM

21ST SUMMER SERIES ON AGING CONFERENCE

14 JUNE 2004

LEXINGTON, KY UNITED STATES

[HTTP://WWW.RGS.UKY.EDU/AGING/SUMMERSERIES](http://www.rgs.uky.edu/aging/summerseries)

48TH ANNUAL HFES MEETING

SEPTEMBER 20-24, 2004

SHERATON NEW ORLEANS HOTEL

NEW ORLEANS, LOUISIANA

SUBMISSION DEADLINE EARLY: FEBRUARY 9, 2004

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SPECIAL THANKS TO OUR OUT GOING OFFICERS

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PROGRAM CHAIR 2003 & NEWSLETTER EDITOR:

Darin Ellis

WEB SITE

Aging Technical Group Website is now accessible

<http://www.hfes.org/Escapes/HFES-TechnicalGroups.html>

Current and prospective members can now access the information available in a number of online resources such as an archive of ATG newsletters, a list of related links, and a directory of members.

We welcome your comments and feedback because our goal is to provide a usable tool that will promote communication between human factors researchers and practitioners interested in aging. Please take an opportunity to complete the on-line survey to provide your input and motivate change to the website.