



HIFES 2007



**Human
Factors and
Ergonomics
Society
51st Annual
Meeting**



PROGRAM



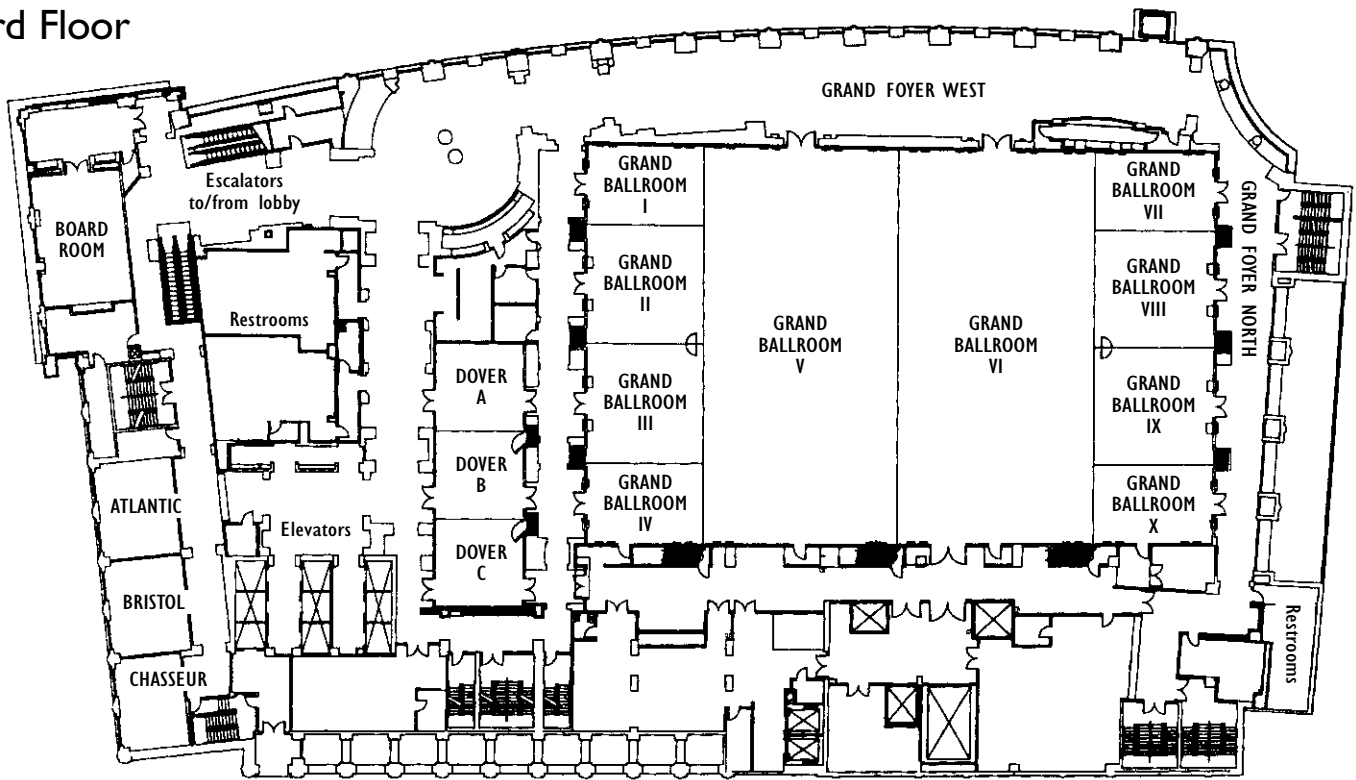
October 1–5, 2007

Baltimore Marriott Waterfront Hotel

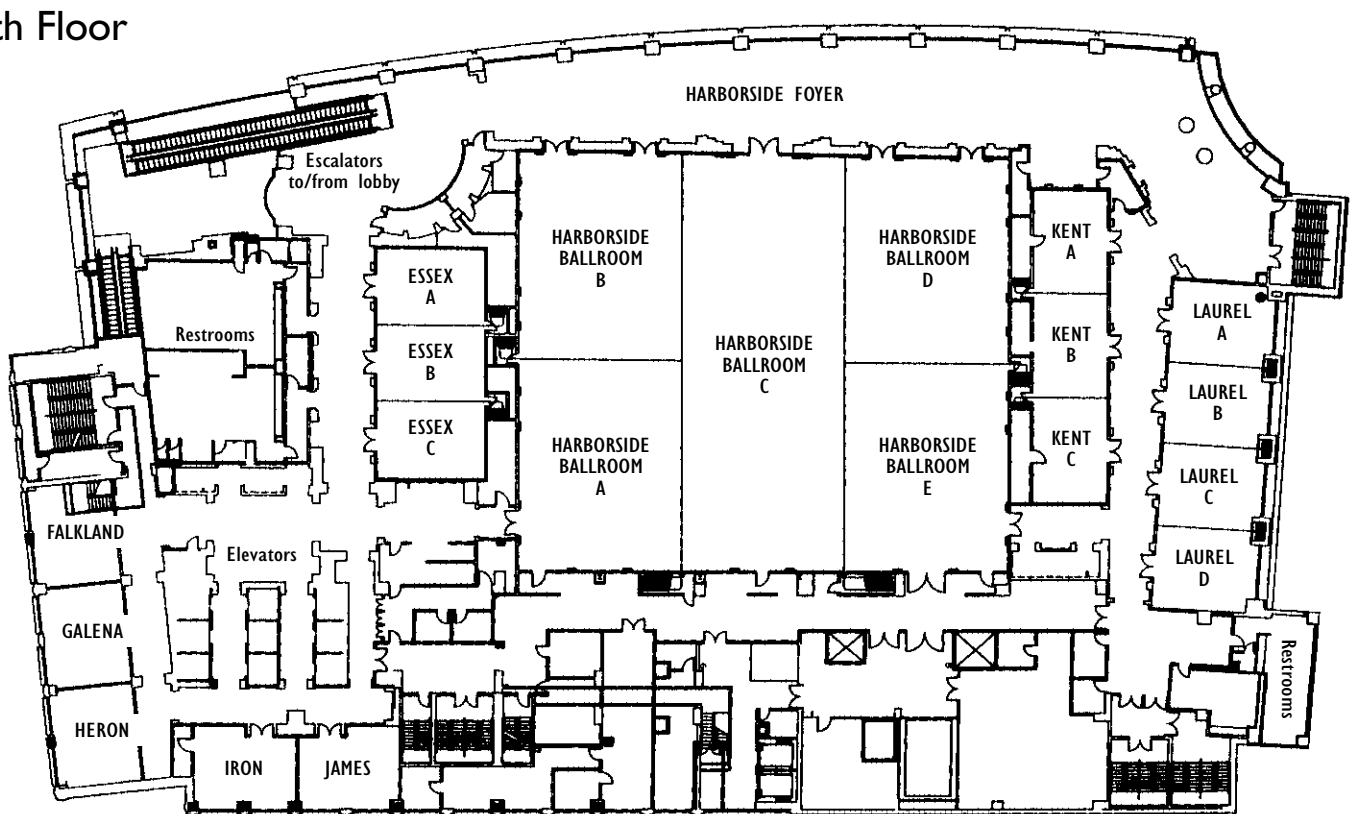
Baltimore, Maryland USA

HFES 51st Annual Meeting – Map of Hotel Conference Areas

3rd Floor



4th Floor





TECHNICAL PROGRAM COMMITTEE

Chair

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Workshops

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COTG Liaison

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Quality

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Council of Technical Groups Liaison

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Aging

Steven F. Wiker

Cognitive Engineering & Decision Making

Ann M. Bisantz
 Catherine M. Burns

Communications

Aaron Bangor

Computer Systems

Joel Greenstein

Education

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Environmental Design

Nancy Stone

Forensics Professional

Marc L. Resnick

Health Care

F. Jacob (Jake) Seagull

Human Performance Modeling

Dario D. Salvucci

Individual Differences in Performance

James L. Szalma

Industrial Ergonomics

Kermit Davis

Internet

Marc L. Resnick

Macroergonomics

Delia Grenville

Perception & Performance

Paul Havig

Product Design

Steven M. Belz

Safety

William J. Vigilante

Surface Transportation

Srinivas Raghavan

System Development

Jay Shively

Test and Evaluation

Lawrence Hettinger

Training

Michelle Harper-Sciarini

Virtual Environments

Ronald R. Mourant

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David M. Cades
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Michael Eidelkind
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Dick Horst
Tyson Rose

Hospitality & Social Events

David Kidd
Yi-Fang Tsai

Student Affairs

Jennifer Moore
Peter Squire

Newsletter

Kevin Durkee

Public Relations & Marketing

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Keynote Speaker Search

Dawn Gray
Derek Schultz
Carl F. Smith

Exhibit Hall Support

Zack Koutsandreas

50th Anniversary Theme

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Peter Squire

Volunteers Coordinator

Nathan Lau

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Secretary/Newsletter

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Jack Laveson

Director at Large/ Meetings Program Director

Derek Schultz

Director at Large

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PLATINUM

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51ST ANNUAL MEETING SPONSORS

Board of Certification in
Professional Ergonomics

Student Lounge (Tuesday)

Dell

Internet Café

HumanCentric Technologies

Student Reception and Volunteer T-Shirts

HFES Cognitive Engineering and
Decision Making Technical Group

Student Lounge (Wednesday)

HFES Council of Technical Groups

"Brown Bag" Mentoring Luncheons

HFES Product Design Technical Group

Student Career and Professional Development Day

User Centric, Inc.

Lanyards

EXHIBITORS

As of September 10, 2007

Advanced Brain Monitoring	#16
Alion Science and Technology	#7
AnthroTech	#TT7
Ashgate Publishing	#12
Board of Certification in Professional Ergonomics	#TT10
C-Motion, Inc.	#22
Contour Design, Inc.	#19
DriveSafety, Inc.	#TT9
DTIC-A San Diego	#TT1
HFES Student Affairs Committee/ Education Technical Group	#28
Lawrence Erlbaum Associates	#13
LC Technologies	#TT6
NASA Human Factors Research	#1-2
National Research Council/ National Academies	#8
Noldus Information Technology, Inc.	#23
Oxford U. Press	#TT3
PDTG User-Centered Design Award	#17
Safework, Inc.	#21
Seeing Eye	#30
Seeing Machines	#6
SensoMotoric Instruments	#9
Systems Technology, Inc.	#20
Taylor & Francis Group-CRC Press	#14-15
U. of Michigan	#5
U.S. Army Aberdeen Test Center	#3-4
Wiley-Blackwell	#24
WorkRite Ergonomics	#TT8
XYBIX Systems, Inc.	#11



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REGISTRATION & FACILITIES

Meeting Facilities

All Annual Meeting functions will be held at the Baltimore Marriott Waterfront Hotel on the third and fourth floors. A map of the meeting space may be found on the inside front cover of this program and displayed on signs.

Registration Desk Location and Hours

All persons attending workshops, technical sessions, and special events (tours, receptions, etc.) and their guests are asked to wear their registration badges. Attendees and guests may register for Annual Meeting events at the Registration Counter in the Grand Ballroom Foyer (3rd Floor).

Registration is open during the following hours:

Sunday	2:00 to 6:00 p.m.
Monday & Tuesday	7:00 a.m. to 6:00 p.m.
Wednesday	7:30 a.m. to 5:30 p.m.
Thursday	7:30 a.m. to 5:00 p.m.
Friday	8:00 a.m. to 12:00 noon

On-Site Special Event Tickets

For those events not sold out in advance, tickets for tours and special events may be purchased at the Registration Counter during registration hours. No waiting lists will be established; tickets will be sold on a first-come, first-served basis.

Locator File

A list of all persons who have registered for the 51st Annual Meeting will be available at the Registration Counter.

Room Capacity

Room selection for sessions is based on estimated attendance and facility restrictions. All efforts have been made to ensure that room capacity is adequate.

Nonsmoking Policy

Smoking is not permitted in any session, meeting, exhibit, or social event room.

Pagers and Cell Phones

Please turn off or mute all pagers and cell phones while attending sessions.

Refreshments

Beverage breaks will take place each morning (10:00–10:30) and afternoon (3:00–3:30). On Monday, Tuesday morning, and Friday morning, beverage breaks will be held adjacent to meeting rooms. The Exhibit Hall will be the location for the afternoon break on Tuesday and

for both morning and afternoon breaks on Wednesday and Thursday.

Cash bar lunch will be available Tuesday through Friday at the following locations and times:

Tuesday	11:30 a.m.–2:00 p.m. Harborside Foyer (4th Floor)
Wednesday–Thursday	11:30 a.m.–2:00 p.m. Exhibit Hall (4th Floor)
Friday	11:30 a.m.–1:30 p.m. Grand Foyer West (3rd Floor)

General
Information

RESOURCES

HFES Central

Staff from the HFES central office will be present at an information desk located near the Registration Counter in the Grand Ballroom Foyer (3rd Floor) to provide information on membership, publications, and services. Nonmembers who submit applications and payment on site are entitled to special discounts.

Career Center

The Career Center is located in Harborside Ballroom D–E (4th Floor) and is open the following hours:

Monday	1:00–6:00 p.m.
Tuesday–Wednesday	8:30 a.m.–6:00 p.m.
Thursday	8:30 a.m.–5:00 p.m.

Subscribers to the HFES online Career Center may reserve booths and/or tables at the on-site Career Center. If you have not already reserved space, you may sign up at the Career Center, subject to availability. The scheduling of formal or informal interviews at the Annual Meeting is the sole responsibility of the employer.

HFES members: You may post your résumé in the online Career Center free of charge. Visit hfes.org and click “Career Center.”

Job Notices at the Annual Meeting

Any individual representing an organization that wishes to post a “for information only” job announcement during the Annual Meeting and has no plans to interview or collect résumés during the event may post such notices in the on-site Career Center for a \$100 fee. Job seekers will be directed to send their résumés directly to the organization advertising the job.

Any company that wishes to post a job in the on-site Career Center, has no plans to interview, but wants HFES to collect résumés to be mailed to them after the meeting will be charged \$150.

Internet Café

Computers with Internet access will be available adjacent to the Registration Counter (Grand Ballroom

Foyer West, 3rd Floor) for attendees who wish to check e-mail during the meeting. Hours are Sunday, 2:00–6:00 p.m.; Monday through Thursday, 7:00 a.m.–6:00 p.m.; and Friday, 7:30 a.m.–1:30 p.m. HFES thanks Dell for its sponsorship.

Cork message boards will also be available for posting hard-copy messages and special meeting and event announcements. Job postings may not be placed on these message boards

Newsletter

The daily newsletter, *The Seaport Sentinel*, containing important information about the meeting program and events, will be available in the registration area, Career Center, Exhibit Hall, and various other locations on the third and fourth floors of the Marriott. Articles or news items may be dropped off at the Registration Counter. The newsletter editorial office is located in the James Room (4th Floor).

Birds of a Feather Room

The Bristol Room (3rd Floor) has been set aside Monday through Thursday from 7:00 a.m. to 8:00 p.m. and on Friday from 7:00 a.m. to 1:30 p.m. for individuals with mutual interests to discuss pertinent topics or conduct meetings. A sign-up sheet will be provided at the room for advance reservations. Meeting times will be allocated on a first-come, first-served basis, although a few special meetings were reserved prior to the Annual Meeting.

Audiovisual Preview Room

The Atlantic Room (3rd Floor) has been reserved for presenters who wish to preview their audiovisual materials. Computers will also be available for AV preview only. Preview hours on Monday–Thursday are 7:00 a.m. to 6:00 p.m. and on Friday from 7:00 a.m. to 12:00 noon.

Volunteers Assignment Room

Student volunteers who have been assigned duties should check in with Volunteers Coordinators Nathan Lau and Anand Tharanathan in the Iron Room (4th Floor).

Proceedings CD-ROM

All registered attendees have been provided with a CD-ROM containing the proceedings. Workstations are available in the Internet Café near the Registration Counter for viewing the CD-ROM and printing out individual papers. If supplies allow, additional CD-ROMs may also be purchased at HFES Central.

EXHIBITS

Location and Hours

All attendees are encouraged to visit the exhibits, located in Harborside Ballroom A/B/C (4th Floor). Coffee

breaks will be held in the Exhibit Hall on Tuesday afternoon and on Wednesday and Thursday morning and afternoon.

Exhibition hours are as follows:

Tuesday	3:00–6:00 p.m.
Wednesday	9:00 a.m.–5:00 p.m.
Thursday	9:00 a.m.–3:30 p.m.

Cash Bar Lunch

Attendees may purchase lunch on Wednesday and Thursday from 11:30 a.m. to 2:00 p.m.

Exhibitor List

The list of exhibitors appears on page iv.

Prize Drawings

HFES will be giving away two 2008 membership renewals and two registrations for the 52nd Annual Meeting in New York City. To enter a drawing to win these prizes, fill out the entry slips found in your portfolio bag and deposit them in the appropriate box inside the main entrance of the Exhibit Hall. In addition, exhibitors may offer prizes for the drawing; entry slips for these prizes may be obtained at each participating exhibitor's booth. All drawings will be held on Wednesday and Thursday during the morning refreshment break (10:00–10:30 a.m.). You must be present to claim your prize. Prizes are not transferable.

Author Book Signings in the Exhibit Hall

Exhibiting publishers have the opportunity to offer book signings in Booth 25 in the Exhibit Hall (Harborside Ballroom A/B/C, 4th Floor). The book signing schedule is as follows (at press time):

Tuesday, October 2 4:45–5:15 p.m.
CRC Press (Taylor & Francis Group)

Ergonomics for Children: Designing Products and Places for Toddlers to Teens, Eds. Rani Lueder & Valerie J. Rice

The Human-Computer Interaction Handbook (2nd ed.), Eds. Andrew Sears & Julie A. Jacko

SPECIAL EVENTS

Human Performance in Extreme Environments 5th Annual Meeting

The HPEE meeting sessions will be held on Sunday and Monday in Kent A/B (4th Floor).

Augmented Cognition 4th International Conference

AugCog paper sessions will be held on Monday from 8:00 a.m. to 6:00 p.m. in Waterview C/D (Lobby Level),

and posters will be displayed on Tuesday and Wednesday in Grand Ballroom Salon VI (3rd Floor). The Tuesday banquet will be held in Grand Ballroom Salon V (3rd Floor) from 6:30 to 9:30 p.m.

Student Career and Professional Development Day

The HFES Student Affairs Committee is pleased to offer a special day devoted to events of interest to students, in Waterview A/B (Lobby Level). See page 7 for a schedule of events. HFES is grateful to the Product Design Technical Group for sponsoring refreshments.

Student Lounge

The Student Lounge, located in the Galena Room (4th Floor), has been set aside for students to meet, network, socialize, participate in special student activities, and relax. Hours are Monday through Thursday, 8:00 a.m.–7:00 p.m. and Friday, 8:00 a.m.–1:30 p.m.

HFES thanks the Board of Certification in Professional Ergonomics and the HFES Cognitive Engineering and Decision Making Technical Group for sponsoring the Student Lounge.

“Brown Bag” Mentoring Luncheons

A series of mentor-mentee luncheons will be held during this year’s meeting to provide students and early-career and transitional professionals with information and opportunities to develop mentoring relationships with established professionals in the HF/E field. The goal of these dynamic, interactive sessions is to allow students and young professionals to freely meet in an informal setting and discuss their concerns and interests. The luncheons will be held from 12:00 noon to 1:30 p.m. on Tuesday, Wednesday, and Thursday, October 2–4. Complimentary lunch will be provided to all attendees.

To keep the luncheons intimate and informal, attendance is limited to 25 (20 students and 5 professionals per session). **Advance reservations are required.**

The mentor-mentee lunch sessions will be held each day in the Heron Room (4th Floor). HFES thanks the Council of Technical Groups for its sponsorship.

Student Reception

All students attending the annual meeting are invited to a special reception on Tuesday, October 17, from 5:00 to 6:00 p.m. in the Waterview Room (Lobby Level). Snacks and soft drinks will be provided along with a no-host bar. HFES thanks HumanCentric Technologies for sponsoring the 2007 Student Reception.

National Ergonomics Month Event

All attendees and their guests and families are invited to attend the 2007 HFES National Ergonomics Month

event on Monday, October 1, from 4:45 to 6:15 p.m. in Dover A/B/C (3rd Floor).

PROGRAM REMINDERS

Poster Sessions

Posters are available for viewing in Grand Ballroom Salon VI (3rd Floor) for a single 90-minute session, as indicated in this program.

Annual Meeting Survey

The Annual Meeting Survey is included in your portfolio bag. Please complete and return it to HFES Central (Grand Ballroom Foyer, 3rd Floor) or return it by mail or fax after the meeting. Many changes and improvements to the annual meeting over the years have come from this important source of feedback. Completing your survey enters you in a drawing to win a 2008 HFES dues renewal. (Names will be removed from the surveys prior to data collection.) Surveys must be received at HFES by November 2. The winner will be notified on November 9.

Audiotaping and Videotaping Policies

Attendees are not permitted to audiotape or videotape any session without prior permission from the Human Factors and Ergonomics Society and all speakers participating in the session. Permission forms are available at HFES Central (Grand Ballroom Foyer, 3rd Floor). Please complete a form for each presentation you wish to tape, obtain the speaker(s)’ signature(s), and return it to HFES Central for authorization.

Session Chairs’/Cochairs’ Breakfast

Workshop presenters, session chairs, and session co-chairs are expected to attend a complimentary buffet breakfast on the morning of their sessions. During these breakfasts, instructions and last-minute information will be given and additional questions answered.

Breakfasts will be held from 7:00 to 8:00 a.m. in the rooms listed below. Note that announcements begin promptly at 7:30 a.m.

Monday	Essex A (4th Floor)
Tuesday–Thursday	Laurel A/B (4th Floor)
Friday	Laurel A (4th Floor)

MEETINGS AND TOURS

Special Meetings

Saturday, September 29

HFES Executive Council
Grand Ballroom Salon I/II (3rd Floor)
8:00 a.m. to 5:00 p.m.

Sunday, September 30

HFES Executive Council
Grand Ballroom Salon I/II (3rd Floor)
8:00 a.m. to 5:00 p.m.

HPEE 5th Annual Meeting
Kent A/B (4th Floor)
9:00 a.m. to 5:00 p.m.

Monday, October 1

Augmented Cognition 4th International Conference
Waterview C/D (Lobby Level)
8:00 a.m. to 6:00 p.m.

HFES 100
Kent C (4th Floor)
8:30 a.m. to 5:00 p.m.

HPEE 5th Annual Meeting
Kent A/B (4th Floor)
9:00 a.m. to 5:00 p.m.

Town Hall
Dover A/B/C
9:30 a.m. to 12:00 noon

Technical Group Newsletter Editors
Boardroom (3rd Floor)
1:30 to 2:30 p.m.

Council of Technical Groups
Essex A/B (4th Floor)
3:00 to 5:00 p.m.

Tuesday, October 2

Standards Working Group
Waterview B (Lobby Level)
10:30 a.m. to 12:00 noon

Human Factors Editorial Board
Laurel A/B (4th Floor)
12:00 noon to 1:30 p.m. (lunch)

Local Chapter Presidents
Falkland (4th Floor)
12:00 noon to 1:30 p.m. (lunch)

U.S. TAG to TC 159 SC1 and SC 4
Boardroom (3rd Floor)
1:30 to 4:30 p.m.

HFES Business Meeting
Grand Ballroom Salon I/II (3rd Floor)
6:00 to 7:00 p.m.

Wednesday, October 3

HFES Publications Committee
Heron (4th Floor)
7:15 to 8:15 a.m.

U.S. TAG to ISO TC 159
Boardroom (3rd Floor)
8:30 a.m. to 12:30 p.m.

G45 Committee
Bristol (3rd Floor)
10:30 a.m. to 12:00 noon

Ergonomics in Design Editorial Board
Grille 700 Restaurant (Lobby Level)
12:00 noon to 1:30 p.m. (lunch)

Student Chapter Presidents
Falkland (4th Floor)
12:00 noon to 1:30 p.m. (lunch)

HFES 200 Committee
Boardroom (3rd Floor)
1:00 to 3:00 p.m.

Journal of Cognitive Engineering and Decision Making
Editorial Board
Dover A/B/C (3rd Floor)
3:30 to 4:30 p.m.

Thursday, October 4

INCOSE
Bristol (3rd Floor)
8:30 to 10:00 a.m.

HFES Institute Board of Supervisors
Bristol (3rd Floor)
10:30 to 11:30 a.m.

Education and Training Committee
Falkland (4th Floor)
12:00 noon to 1:30 p.m. (lunch)

HFES Institute Working Group
Bristol (3rd Floor)
1:30 to 3:00 p.m.

Technical Group Program Chairs
Laurel A/B (4th Floor)
5:15 to 6:30 p.m.

Friday, October 20

Technical Program Committee
Chasseur (3rd Floor)
8:15 to 10:15 a.m.

Technical Group Business Meetings**Monday, October 1**

Technical Group Newsletter Editors
Essex A/B (4th Floor)
1:30 to 2:30 p.m.

Council of Technical Groups
Essex A/B (4th Floor)
3:00 to 5:00 p.m.

Tuesday, October 2

Augmented Cognition
Waterview A (Lobby Level)
12:30–1:30 p.m. (lunch)

Product Design
Grand Ballroom Salon VII/VIII (3rd Floor)
5:30–7:00 p.m.

Wednesday, October 3

Aerospace Systems
Suite 708
3:30–4:30 p.m. (reception)

Aging
Laurel A/B (4th Floor)
12:00 noon–1:30 (lunch)

Cognitive Engineering and Decision Making
Dover A/B/C (3rd Floor)
4:30–5:30 p.m. (reception)

Communications
Grand Ballroom Salon VII/VIII (3rd Floor)
5:30–6:30 p.m. (reception)

Computer Systems
Grand Ballroom Salon VII/VIII (3rd Floor)
3:00–4:30 p.m.

Education
Falkland (4th Floor)
7:00–8:30 a.m. (breakfast)

Environmental Design
Grand Ballroom Salon III/IV (3rd Floor)
3:15–4:30 p.m. (reception)

Forensics Professional Group
Grand Ballroom Salon I/II (3rd Floor)
5:30–6:30 p.m. (reception)

Health Care
Grand Ballroom Salon IX/X (3rd Floor)
5:30–6:30 p.m.

Human Performance Modeling
Essex A/B/C (4th Floor)
5:30–6:30 p.m. (reception)

Internet
Grand Ballroom Salon VII/VIII (3rd Floor)
4:30–5:30 p.m.

Macroergonomics
Grand Ballroom Salon III/IV (3rd Floor)
3:15–4:30 p.m. (reception)

Perception & Performance
Chasseur (3rd Floor)
12:00 noon–1:30 p.m. (lunch)

Safety
Grand Ballroom Salon I/II (3rd Floor)
4:30–5:30 p.m.

Surface Transportation
Grand Ballroom Salon III/IV (3rd Floor)
5:00–6:30 p.m. (reception)

System Development
Essex A/B/C (4th Floor)
4:30–5:30 p.m. (reception)

Test & Evaluation
Chasseur (3rd Floor)
7:00–8:30 a.m. (breakfast)

Training
Essex A/B/C (4th Floor)
3:15–4:30 p.m.

Thursday, October 4

Individual Differences
Chasseur (3rd Floor)
12:00 noon–1:30 p.m. (lunch)

Industrial Ergonomics
Grand Ballroom Salon III/IV (3rd Floor)
5:15–6:45 p.m. (reception)

Virtual Environments
Grand Ballroom Salon IX/X (3rd Floor)
3:15–4:30 p.m.

Social Tour

Buses will begin loading from the front of the hotel 15 minutes prior to the departure time listed below. If the event is not sold out, tickets may be purchased at the Registration Counter. Tickets must be presented when buses are loading.

Sunday, September 30

Washington by Day
9:00 a.m.–3:00 p.m.

Social Events

Monday, October 1

Gala Opening Reception (ticket required)
Grand Ballroom Salon (3rd Floor)
6:30–9:00 p.m.

Tuesday, October 2

Student Reception
Waterview (Lobby Level)
5:00–6:00 p.m.

Augmented Cognition International Banquet
Grand Ballroom Salon V (3rd Floor)
6:30–9:30 p.m.

Board of Certification in Professional Ergonomics
Reception
Laurel A–D (4th Floor)
7:00 to 9:00 p.m.

Technical Tours

Buses will begin loading from the front of the hotel 15 minutes prior to the departure times listed below. Tickets for events not sold out may be purchased at the Registration Counter. Tickets must be presented when buses are loading. At press time, the following tours were scheduled to take place; however, please check the daily on-site newsletter and the poster boards in the registration area for updates about canceled events.

Wednesday, October 3

T1, U.S. Army Research Lab
7:45 a.m.–1:30 p.m.

T3, User-Centered Informatics Research Lab at the National Cancer Institute
9:00 a.m.–1:00 p.m.

T4, Uniformed Services U. of the Health Sciences (USUHS) National Capital Area Medical Simulation Center
10:00 a.m.–1:00 p.m.

T5, Maryland Advance Simulation, Training, Research, and Innovation Center; Maryland Institute for Emergency Medical Service Systems Emergency Medical Communications Center; R. Adams Cowley Shock Trauma Center
12:45–3:45 p.m.

T6, AnthroTronix, Inc.
1:00–5:00 p.m.

Thursday, October 4

T7, Consumer Product Safety Commission (CPSC) Testing Lab
8:00 a.m.–1:30 p.m.

T8, National Federation of the Blind International Braille and Technology Center
9:30 a.m.–12:30 p.m.

T9, USUHS National Capital Area Medical Simulation Center
10:00 a.m.–1:00 p.m.

T10, CPSC Testing Lab
11:45 a.m.–4:45 p.m.

T11, UserWorks, Inc. Usability Lab and Focus Group Facility
12:30–4:30 p.m.

TECHNICAL PROGRAM

Monday, October 1

8:30 a.m. to 5:00 p.m.

Workshops

At press time, the following workshops were scheduled to take place; however, please check the daily on-site newsletter and the poster boards in the registration area for updates about canceled events.

Morning-Only Workshops

8:30 a.m. to 12:00 noon

WK1 – Stairway Usability and Safety, Part 1:

Uses and Falls by Individuals

Jake Pauls, Jake Pauls Consulting Services

Monday, October 1, 2007, 8:30 a.m. to 12:00 noon

Laurel A/B (4th Floor)

WK2 – Successfully Implementing Ergonomic Solutions

Peter Vink, TNO

Monday, October 1, 2007, 8:30 a.m. to 12:00 noon

Grand Ballroom Salon VII (3rd Floor)

Afternoon-Only Workshop

1:30 to 5:00 p.m.

WK3 – Stairway Usability and Safety, Part 2:

Egress Performance and Crowd Safety

Jake Pauls, Jake Pauls Consulting Services

Monday, October 1, 2007, 1:30 p.m. to 5:00 p.m.

Laurel A/B (4th Floor)

Full-Day Workshops

9:00 a.m. to 4:30 p.m.

WK5 – Test and Evaluation of Complex Systems

Darren S. Cole and James C. Walliser, U.S. Air Force Flight Test Ctr.

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon I (3rd Floor)

WK6 – Cognitive Work Analysis for Design

Gavan Lintern, General Dynamics

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon VIII (3rd Floor)

WK7 – Impacting System Design Through Human Performance Modeling

Charneta L. Samms and John Lockett, U.S. Army Research Lab

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Laurel C (4th Floor)

WK8 – Guide for Selecting Workload and Situational Awareness Measures

Valerie J. Gawron, General Dynamics

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon IV (3rd Floor)

WK9 – Designing to Enhance Situation Awareness

Mica R. Endsley and Debra G. Jones, SA Technologies

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon III (3rd Floor)

WK10 – Systems Engineering for the Human Factors Engineer

George M. Samaras, Samaras & Assoc., Inc.

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon VIII (3rd Floor)

WK14 – Design Chautauqua – Design Ethnography

Steven M. Belz, AT&T

Monday, October 1, 2007, 9:00 a.m. to 4:30 p.m.

Grand Ballroom Salon II (3rd Floor)

Monday, October 1

9:00 a.m. to 4:00 p.m.

Technical Sessions

SFI – STUDENT CAREER AND PROFESSIONAL DEVELOPMENT DAY

Alternative Format

Monday, October 1, 2007, 9:00 a.m. to 4:00 p.m.

Waterview A/B (Lobby Level)

Student Forum

Part I: A Review of Student Resources Offered by the Human Factors and Ergonomics Society

9:00 to 9:30 a.m.

Anthony D. Andre, Interface Analysis Assoc., Student Affairs Chair

Part II: Recent Graduate Career Preparation Panel

9:30 a.m. to 12:00 noon

Chair: Anthony D. Andre, Interface Analysis Assoc., Student Affairs Chair

Panelists: Sandra K. Garrett, Clemson U.; Farilee Mintz, Booz Allen Hamilton; J. Christopher Brill, Michigan Tech U.; Kristi Schmidt, Apple Inc.; Thomas Carpenter, Lockheed Martin System Integration-Owego; Aideen Stronge, Google

Group lunches (organized on site)

Key to Abbreviations Used in This Program

AS	Aerospace Systems
A	Aging
ACI	Augmented Cognition International
CE	Cognitive Engineering & Decision Making
C	Communications
CS	Computer Systems
DEM	Demonstrations
E	Education
ED	Environmental Design
FP	Forensics Professional
GS	General Sessions
HC	Health Care
HP	Human Performance Modeling
ID	Individual Differences in Performance
IE	Industrial Ergonomics
I	Internet
ME	Macroergonomics
PL	Plenary Session
PP	Perception & Performance
PD	Product Design
POS	Posters
S	Safety
SS	Special Sessions
SF	Student Forum
ST	Surface Transportation
SD	System Development
TE	Test & Evaluation
T	Training
VE	Virtual Environments
WK	Workshops

Monday
Oct. 1

Part III: Industry Experts Forum

Hosted by the HFES Old Dominion U. Student Chapter
1:30 to 4:00 p.m.

Chair: Randall D. Spain, HFES Old Dominion U.
Student Chapter President

Panelists: Jerry Duncan, John Deere Technology Ctr.;
David Baker, American Institutes for Research; John F.
(Jeff) Kelley, IBM Global Business Services; Michelle
M. Robertson, Liberty Mutual Research Inst. for
Safety; Anthony D. Andre, Interface Analysis Assoc.

Monday, October 1

8:00 a.m. to 6:00 p.m.

ACI – AUGMENTED COGNITION 4TH INTERNATIONAL CONFERENCE PAPER SESSIONS

Monday, October 1, 8:00 a.m. to 6:00 p.m.
Waterview C/D (Lobby Level)

Open to all attendees.

FIFTH ANNUAL MEETING OF THE SOCIETY FOR HUMAN PERFORMANCE IN EXTREME ENVIRONMENTS

Monday, October 1, 9:00 a.m. to 5:00 p.m.
Kent A/B (4th Floor)

Separate registration required at
<https://web.memberclicks.com/mc/quickForm/viewForm.do?orgId=shpec&formId=20643>.

Monday, October 1

4:45 to 6:15 p.m.

GSI – NATIONAL ERGONOMICS MONTH

Alternative Format
Monday, October 1, 4:45 to 6:15 p.m.
Dover A/B/C (3rd Floor)

Chair: Haydee Cuevas, SA Technologies, Inc.,
National Ergonomics Month Committee Chair

Tuesday, October 2

8:00 a.m. to 10:15 a.m.

PLI – OPENING PLENARY SESSION

Plenary

Tuesday, October 2, 8:00 to 10:15 a.m.

Grand Ballroom Salon V/VI (3rd Floor)

1. **Keynote Address: Human Factors and Product Safety: The Role of the U.S. Consumer Product Safety Commission**, Nancy Nord, Acting Chairman, U.S. Consumer Product Safety Commission
2. **Presentation of HFES Fellows and Honorary Fellows**
3. **Presentation of HFES Awards**
4. **Presidential Address: HFES and Its Place in a Changing World: Grand Challenges and Opportunities for Our Discipline in the 21st Century**, Waldemar Karwowski, HFES President

Tuesday, October 2

10:30 a.m. to 12:00 noon

CEI – COGNITION UNDER STRESS

Lecture

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon
Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Gloria L. Calhoun, Wright Patterson AFB;
Cochair: Priyadarshini R. Pennathur, U. at Buffalo-SUNY

1. Michael C. Dorneich, Santosh Mathan, Patricia M. Ververs, and Stephen D. Whitlow, Honeywell Labs, **An Evaluation of Real-Time Cognitive State Classification in a Harsh Operational Environment**
2. Razia V. Nayeem, U. of Central Florida; Tal Oron-Gilad, Ben-Gurion U. of the Negev; Peter A. Hancock, U. of Central Florida, **Operators' Time Perception Under Stress**
3. Kelly A. Burke, Honeywell Labs; Tal Oron-Gilad, Ben-Gurion U. of the Negev; Gareth Conway, Defense Science and Technology Lab; Peter A. Hancock, U. of Central Florida, **Friend/Foe Identification and Shooting Performance: Effects of Prior Task Loading and Time Pressure**

4. Roger A. Chadwick and Skye Pazuchanics, New Mexico State U., **Spatial Disorientation in Remote Ground Vehicle Operations: Target Localization Errors**
5. Marja-Leena Haavisto, Jussi Virkkala, Mikko Härmä and Kiti Müller, Finnish Inst. of Occupational Health; Tarja Porkka-Heiskanen, U. of Helsinki; Mikael Sallinen, Finnish Inst. of Occupational Health, **Effects of Cumulative Sleep Loss and Two Nights' Recovery Sleep on Multiple-Task Performance**

CE2 – WORKING WITH AUTOMATION

Lecture

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon I/II (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Kathleen L. Mosier, San Francisco State U.;

Cochair: Winnie Chen, U. of Waterloo

1. Francesco Di Nocera, Marco Camilli, and Michela Terenzi, U. of Rome “La Sapienza,” **Psychophysiological Correlates of Shifting Between Levels of Automation**
2. Toshiyuki Inagaki, Makoto Itoh, and Yoshitomo Nagai, U. of Tsukuba, **Driver Support Functions Under Resource-Limited Situations**
3. Luis N. G. Castro, Amy R. Pritchett, Daniel P. J. Bruneau, and Eric N. Johnson, Georgia Tech, **Applying Coherent Design to Uninhabited Aerial Vehicle Operations and Control Stations**
4. Shelley M. Roberts and Avi Parush, Carleton U., **A Dynamic Model Balancing User Control and Workload in Automatic and Adaptive Systems**
5. Guoxi Zhang, Purdue U.; Robert Feyen, U. of Minnesota–Duluth, **Hierarchical Task Prioritization Behavior in Two- and Four-Task Scenarios**

GSI – PRESIDENT’S FORUM: HOW CAN WE ENHANCE THE IMPACT OF HF/E ON THE WORLD? PRESIDENTIAL FORUM POSITION PAPER

Discussion Panel

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon VII/VIII (3rd Floor)

General Sessions

Chair: Marvin J. Dainoff, Miami U.

HCI – ACHIEVING HIGH RELIABILITY IN HEALTH CARE: APPROACHES AND PERSPECTIVES

Invited Symposium

Tuesday, October 2, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon III/IV (3rd Floor)

Health Care

Chair: Cynthia Dominguez, Klein Assoc. Div. of ARA;

Cochair: Yan Xiao, U. of Maryland

1. Jeff Brown, Klein Assoc. Div. of ARA; Linda Kosnik, Vistaar Healthcare Solutions; Donald Cox, Klein Assoc. Div. of ARA, **Enhancing an Application for Dynamic Management of System Capacity Using Cognitive Assessment Indicators**
2. Robert L. Wears and Shawna J. Perry, U. of Florida Health Science Ctr.; Allyson McFauls, Shands Jacksonville Medical Ctr., **Dynamic Changes in Reliability and Resilience in the Emergency Department**
3. Lygia Stewart and Lawrence W. Way, U. of California, San Francisco, **The Prevention of Laparoscopic Bile Duct Injuries: An Analysis of 300 Cases From a Human Factors and Cognitive Psychology Perspective**
4. Christopher P. Nemeth and Richard Cook, U. of Chicago, **Reliability Versus Resilience: What Does Health Care Need?**
5. Ayse Gurses, U. of Minnesota; Yan Xiao, Kristin Seidl, Vinay Vaidya, and Grant Bochicchio, U. of Maryland, **Systems Ambiguity: A Framework to Assess Risks and Predict Potential Systems Failures**

IDI – INDIVIDUAL DIFFERENCES IN HUMAN PERFORMANCE: NEURAL, GENETIC, COGNITIVE, AND PSYCHOMETRIC APPROACHES

Discussion Panel

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon

Kent A/B/C (4th Floor)

Individual Differences

Chair: Joel S. Warm, U. of Cincinnati

Panelists: Raja Parasuraman, George Mason U.; Gerald Matthews, U. of Cincinnati; Carryl Baldwin, Old Dominion U.; James L. Szalma, U. of Central Florida

Tuesday
Oct. 2

PPI – PERCEPTION IN AEROSPACE APPLICATIONS

Lecture

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon
Grand Ballroom Salon IX/X (3rd Floor)
Perception & Performance

Chair: Elizabeth Davis, Georgia Tech; *Cochair:* George Reis, Air Force Research Lab

1. Rob Gray, Arizona State U., **2-D vs. 3-D Visual Cues for Altitude Maintenance in Low-Altitude Flight**
2. Kelley S. Parsons, Cornell U.; Joel S. Warm, U. of Cincinnati; W. Todd Nelson, U.S. Air Force Research Lab; Michael A. Riley and Gerald Matthews, U. of Cincinnati, **Detection-Action Linkage in Vigilance: Effects on Workload and Stress**
3. Lloyd D. Tripp, U.S. Air Force Research Lab; Joel S. Warm, Gerald Matthews, Peter Chiu, and Bruce Bracken, U. of Cincinnati, **+Gz Acceleration Loss of Consciousness: Use of G-Suit Pressurization and Sensory Stimulation to Enhance Recovery**
4. Jacquelyn M. Crebolder and Tarra L. Penney, Defence Research & Development Canada, **Use of Continuous Zoom on Electro-Optical Imaging Systems: Comparisons Between Automatic and Manual Target Tracking**
5. Randy J. Brou, Stephanie Doane, Daniel Carruth, and Gary Bradshaw, Mississippi State U., **Pilot Expertise and Instrument Failure: Detecting Failure Is Only Half the Battle**

SI – WARNINGS AND RISK PERCEPTION

Lecture

Tuesday, October 2, 2007, 10:30 a.m. to 12:00 noon
Essex A/B/C (4th Floor)
Safety

Chair: David R. Lenorovitz, LENPRO Services, Inc.; *Cochair:* Albert V. Karvelis, Packer Engineering

1. J. Paul Frantz, Timothy P. Rhoades, Stephen L. Young, Julia K. Diebol, and Raina J. Shah, Applied Safety and Ergonomics, Inc., **Exploring Parental Response to Age-Related Warnings**
2. Raymond Lim, Los Angeles Pierce College; William J. Vigilante, Robson Forensic, Inc., **Middle-School-Aged Children's Expectations and Beliefs Toward the Relative Safety of Riding Bicycles at Night**
3. Nathan T. Dorris, Auburn U.; R. Valimont, Dorris & Assoc., Inc.; Eric J. Boelhouwer, Auburn U., **Eye Movements While Reading Degraded On-Product Warnings**

4. Danielle Lottridge and Mark Chignell, U. of Toronto, **Driving Under the Influence of Phones: The Importance of Cognitive Style and Cognitive Ability on Interruption-Related Performance**
5. Jeffrey J. Smith and Michael S. Wogalter, North Carolina State U., **Perceived Effectiveness of Warning Messages for Use as Vocal Warnings in Residential Fire Alarms**

Tuesday, October 2

12:30 to 1:30 p.m.

Technical Group Business Meeting

Augmented Cognition

Waterview A (Lobby Level)
12:30 to 1:30 p.m.

Tuesday, October 2

1:30 to 3:00 p.m.

AI – AGING AND TECHNOLOGY AND PRODUCT DESIGN

Lecture

Tuesday, October 2, 2007, 1:30 to 3:00 p.m.
Grand Ballroom Salon VII/VIII (3rd Floor)
Aging

Chair: Steven F. Wiker, West Virginia U.; *Cochair:* John Mendenhall, Mendenhall & Assoc.

1. Young Seok Lee, Virginia Tech, **A Survey of Mobile Phone Use in Older Adults**
2. Neta Ezer, Arthur D. Fisk, and Wendy A. Rogers, Georgia Tech, **Reliance on Automation as a Function of Expectation of Reliability, Cost of Verification, and Age**
3. Thomas Kuhn, Sara J. Czaja, Sankaran N. Nair, Joseph Sharit, Chin Chin Lee, Mario Hernandez, and Tamar El-Attar, U. of Miami, **What Types of Difficulties Do Seniors Encounter When Using the Internet to Make Health Care Decisions?**
4. Jessica R. Hirth, Sara J. Czaja, and Joseph Sharit, U. of Miami, **Older Adults' Health Information Needs and the Effect of the Internet**
5. Tiffany S. Jastrzembski, U.S. Air Force Research Lab; Neil Charness, Florida State U., **Error Extensions to GOMS Modeling: Age-Related Predictions of Error in a Mobile Phone Task**

6. Anne E. Adams, Wendy A. Rogers, and Arthur D. Fisk, Georgia Tech, **Inferences and Confidence in Warning Texts: The Role of Age and Prior Knowledge**

CE3 – MODERN TECHNOLOGY FAILURES, COGNITIVE ENGINEERING SUCCESSES

Discussion Panel

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Grand Ballroom Salon I/II (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Nancy J. Cooke, Arizona State U.; *Cochair:* Francis T. Durso, Texas Tech U.

Panelists: Francis T. Durso, Texas Tech U.; Karlene Ball, U. of Alabama; Frank A. Drews, U. of Utah; Wayne Gray, Rensselaer Polytechnic Inst.; David Klinger, SRA International; James Staszewski, Carnegie Mellon U.

HPI – MODELING PERFORMANCE IN THE ENVIRONMENTAL CONTEXT

Lecture

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Kent A/B/C (4th Floor)

Human Performance Modeling

Chair: Michael D. Byrne, Rice U.; *Cochair:* Robert Feyen, U. of Minnesota–Duluth

1. Josephine Q. Wojciechowski, U.S. Army Research Lab, **Modeling Human Performance With Environmental Stressors: A Case Study of the Effect of Vehicle Motion**
2. W. Neal Reilly, John A. Bachman, Karen A. Harper, Stephen Marotta, and Jonathan D. Pfautz, Charles River Analytics, **Modeling the Effects of Behavior Moderators for Simulation-Based Human Factors Design**
3. Christopher Miller and Peggy Wu, Smart Information Flow Technologies, **The “Etiquette Engine”™: A Computational Model of Social Interaction Politeness**
4. Cheryl Bolstad, SA Technologies; Peter Foltz and Marita Franzke, Pearson Knowledge Technologies; Haydee Cuevas, SA Technologies; Mark Rosenstein, Pearson Knowledge Technologies; Anthony Costello, SA Technologies, **Predicting Situation Awareness From Team Communications**
5. Christopher Wickens, Angela Sebok, Tim Bagnall, and Jill Kamienski, Alion Science and Technology MA&D Operation, **Modeling of Situation Awareness Supported by Advanced Flight Deck Displays**

IEI – UPPER EXTREMITY AND WORKSTATION DESIGN

Lecture

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Grand Ballroom III/IV (3rd Floor)

Industrial Ergonomics

Chair: M. Susan Hallbeck, U. of Nebraska–Lincoln;

Cochair: Patrick Dempsey, Liberty Mutual Research Inst. for Safety

1. Nancy A. Baker and Mark S. Redfern, U. of Pittsburgh, **The Association Between Computer Typing Style and Typing Speed**
2. Allison M. Anderson, Gary A. Mirka, and Sharon M. B. Joines, North Carolina State U., **Learning Rate Analysis of Alternative Keyboards**
3. Riley E. Splittstoesser, Sahika V. Korkmaz, Carolyn M. Sommerich, and Steven A. Lavender, Ohio State U., **A Comparison of Computer Workstation Adjustments Made by Users Following Web-Based Instructions and Those of an Ergonomics Professional**
4. Yong-Ku Kong, Sungkyunkwan U.; Soo-Jin Lee, Hanyang U.; Brian D. Lowe, National Inst. for Occupational Safety and Health; Seongho Song, U. of Cincinnati, **Evaluation of Various Handle-Grip Spans for Optimizing Finger-Specific Force Based on the Users’ Hand Sizes**
5. Jaewon Choi, U. of Michigan; D. Christian Grieshaber, Illinois State U.; Thomas J. Armstrong, U. of Michigan, **Estimation of Grasp Envelope Using a 3-Dimensional Kinematic Model of the Hand**

II – INTERNET

Lecture

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Essex A/B/C (4th Floor)

Internet

Chair: Marc L. Resnick, Florida International U.

1. Marc L. Resnick, Florida International U., **Internet-Based Error Reporting Systems: Usability Is Power**
2. Marc L. Resnick and Yichen Xu, Florida International U., **The Importance of Context in the Design of Collaborative Media**
3. Sam Zheng, Siemens Corporate Research, **WikiTable: A New Tool for Collaborative Authoring and Data Management**
4. Susan G. Campbell and Kent L. Norman, U. of Maryland, **Strategy, Spatial Visualization Ability, and Performance on Web Site Navigation**
5. Sam Zheng, Siemens Corporate Research, **Aggregation of Consumer Ratings of Online**

Tuesday
Oct. 2

Products: Applying Social Choice Theory to Investigate the Cordocet Efficiency of Mean Rule

PP2 – NEUROERGONOMICS OF VISUAL COGNITION: RESEARCH AND APPLICATIONS

Discussion Panel

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Grand Ballroom IX/X (3rd Floor)

Perception & Performance

Chair: Raja Parasuraman, George Mason U.

Panelists: Yang Jiang, U. of Kentucky; James Thompson and Maria Kozhevnikov, George Mason U.; Matthew Rizzo, U. of Iowa

POSI – POSTERS

Poster Session

Tuesday, October 2, 2007, 1:30 to 3:00 p.m

Grand Ballroom VI (3rd Floor)

Posters

Chair: Jessica Ray, U. of Central Florida; *Cochair:* Aksi Kakar, Virginia Tech

Posters are 90 minutes only; presenters are required to be present throughout the session.

Team Performance

1. Laura Milham, Design Interactiive, Inc.; Haydee Cuevas, SA Technologies, **Investigating the Effects of 3-D Spatialized Auditory Cues on the Development of Situation Awareness for Teams**
2. Ewart J. De Visser and Raja Parasuraman, George Mason U.; Amos Freedy, Elan Freedy, and Gersh Weltman, Perceptronics Solutions, Inc., **Evaluating Situation Awareness in Human-Robot Teams**
3. April M. Bennett, W. Todd Nelson, and Scott M. Galster, U.S. Air Force Research Lab; Rebecca D. Brown, General Dynamics AIS; Allen W. Dukes, U.S. Air Force Research Lab; Daniel H. Schwartz, Consortium Research Fellows Pro, **Information Availability and Team Performance: A Network-Centric Supply Chain Simulation**
4. Melissa A. Vander Wood, Kristina L. O'Connell, and June J. Pilcher, Clemson U., **Teamwork on a Cognitive Task During a Night of Sleep Deprivation and Sustained Operations**
5. Jeffrey J. Smith and Sharolyn A. Lane, North Carolina State U., **Undergraduate Student Perceptions of Teamwork and Use of Teams in the Classroom**

Robotics/Uninhabited Vehicles

6. Kristin Moore, Joshua Gomer, Suzanne Butler, and Christopher Pagano, Clemson U., **Perception of**

Robot Passability and Aperture Width During Direct Line-of-Sight and Teleoperation Conditions

7. Ewart J. De Visser and Raja Parasuraman, George Mason U., **Effects of Imperfect Automation and Task Load on Human Supervision of Multiple Uninhibited Vehicles**
8. Li Wei Cheng, Cher Wee Ang, and Meng Fai Ying, DSO National Labs; Wai Heng Chan, Motorola, **Human Factors Evaluation of 360 Panoramic View Camera System for Ground Vehicle**
9. Yaniv Minkov, Shay Perry, and Tal Oron-Gilad, Ben-Gurion U. of the Negev, **The Effect of Display Size on Performance of Operational Tasks With UAVs**
10. Daniel N. Cassenti, U.S. Army Research Lab, **Recovery From Automation Error After Robot Neglect**

Anthropomorphism

11. Hana Smith, Valerie K. Sims, Matthew G. Chin, Linda Upham Ellis, David J. Sushil, Matthew Velie, and Randall Shumaker, U. of Central Florida, Neal Finkelstein, U.S. Army Research, Development, & Engineering Command, **Evidence for the Use of Minimal Anthropomorphic Features in Attributions for Automobiles**
12. Heather C. Lum, Anne M. Sinatra, Valerie K. Sims, Matthew G. Chin, Hana Smith, and Randall Shumaker, U. of Central Florida; Neal Finkelstein, U.S. Army Research, Development, & Engineering Command; Michael Flood, U. of Central Florida, **Size Does Matter: Automobile "Facial" Features Predict Consumer Attitudes**

Safety

13. Elaine C. Wisniewski, Judith J. Isaacson, and Steven M. Hall, Applied Safety and Ergonomics, Inc., **Development and Evaluation of Safety Symbols for Landscaping Products**
14. Nikola Ribar, Michael S. Wogalter, and Christopher B. Mayhorn, North Carolina State U., **Perceived Hazard for Images Depicting Before and During Consequences With Two Kinds of Prohibition Symbols**
15. Theresa M. Costello and Michael S. Wogalter, North Carolina State U., **Reflective Trim on Clothing: Desirability Indicated by Purchase Preference**

Methods/Tools

16. Esa M. Rantanen and Peter M. Vlach, U. of Illinois at Urbana-Champaign, **Development of Air Traffic Control Measures Database**
17. Joseph Cohen and H. Harvey Cohen, Error Analysis, Inc., **Enhancing Forensic Human Factors/Ergonomics Analyses Using Digital Surveillance Video**

18. J. Christopher Brill, Michigan Technological U.; Mustapha Mouloua and Richard D. Gilson, U. of Central Florida, **Indexing Cognitive Reserve Capacity: A Multimodal Approach**

ACI – Augmented Cognition International

19. Michael B. Russo, U.S. Army Aeromedical Lab; John A. Caldwell, Jr., U.S. Air Force Research Lab; Maria L. Thomas, U.S. Army Aeromedical Lab, **Ethical Considerations in the Use of Cognicenticals as Augmented Cognition Mitigation Strategies: Alertness-Sustaining Fatigue Countermeasures**
20. Marc Grootjen, Royal Netherlands Navy, Mark A. Neerinx, Technical U. of Delft; K. D. Stolk, Royal Netherlands Navy; J.C.M. van Weert and E.P.B. Bierma, TNO Human Factors, **Design and User Evaluation of an Interface Prototype That Adapts to the Operator's Cognitive Task Load**
21. Christian Jerome, U.S. Army Research Institute for the Behavioral and Social Sciences; Amanda Howey, U. of Central Florida, **Task Performance and Workload Using an Augmented Reality Attention Orienting System**
22. Denise M. Nicholson, Cali M. Fidopiastis, Clint A. Bowers, Pankaj Mahajan, Aniket Vartak, Tatiana Ballion, and Carl Anglesea, U. of Central Florida, **Multiple Baseline Approach to Understanding Psychometric Data in Augmented Cognition Paradigms**
23. Michael A. Rosen, Moshe Feldman, Stephen M. Fiore, and Eduardo Salas, U. of Central Florida, **Augmented Team Cognition for Complex Problem-Solving Tasks: A Framework and Research Agenda**

SSI – THE FUTURE OF THE HF/E DISCIPLINE AND PROFESSION

Discussion Panel

Tuesday, October 2, 2007, 1:30 to 3:00 p.m.

Dover A/B/C (3rd Floor)

Special Sessions

Chair: Waldemar Karwowski, U. of Central Florida, HFES President

Panelists: Kenneth R. Boff, U.S. Air Force Research Lab; Marvin J. Dainoff, Miami U.; Peter A. Hancock, U. of Central Florida

SF2 – STUDENT RESEARCH ON DRIVER BEHAVIOR

Lecture

Tuesday, October 2, 2007, 1:30 to 3:00 p.m.

Laurel C/D (4th Floor)

Student Forum; cosponsored by Surface Transportation

Chair: Sandra K. Garrett, Clemson U.; *Cochair:* Lalaine Ignacio, Purdue U.

1. Steven L. Pautz, Margaux M. Price, and Richard Pak, Clemson U., **Accommodating Age-Related Differences in Computer-Based Information Retrieval Tasks**
2. Nicholas Kelling and Gregory M. Corso, Georgia Tech, **The Influence of Lead Vehicle Behavior and Vehicle Rates of Closure on a Driver's Braking Behavior**
3. Thomas K. Ferris, Shameem Hameed, Robert Penfold, and Nikhil C. Rao, U. of Michigan, **Tactons in Multitask Environments: The Interaction of Presentation Modality and Processing Code**

**Tuesday, October 2
3:30 to 5:00 p.m.**

CE4 – SITUATION AWARENESS IN COMPLEX ENVIRONMENTS

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Gavan Lintern, General Dynamics; *Cochair:* Melanie C. Wright, Duke U. Medical Ctr.

1. Harvey S. Smallman, Pacific Science and Engineering Group; Mary Hegarty, U. of California, Santa Barbara, **Expertise, Spatial Ability, and Intuition in the Use of Complex Visual Displays**
2. Catherine M. Burns, U. of Waterloo; Greg Jamieson, U. of Toronto; Gyrd Skraaning, Inst. for Energy Technology; Nathan Lau, U. of Toronto; Jordanna Kwok, U. of Waterloo, **Supporting Situation Awareness Through Ecological Interface Design**
3. Xilin Li and Penelope M. Sanderson, U. of Queensland; Rizah Memisevic, Powerlink Queensland; William Wong, Middlesex U., **Adapting Situational Awareness Measures for Hydro-power Display Evaluations**

Tuesday
Oct. 2

4. Erik S. Connors and Mica R. Endsley, SA Technologies; Lawrence E. Jones, AREVA T&D, **Situation Awareness in the Power Transmission and Distribution Industry**
5. Shameem Hameed, Swapna Jayaraman, Melissa Ballard, and Nadine B. Sarter, U. of Michigan, **Guiding Visual Attention by Exploiting Cross-modal Spatial Links: An Application in Air Traffic Control**

GS2 – BEST OF AUGMENTED COGNITION INTERNATIONAL (ACI) 2007

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Essex A/B/C (4th Floor)

General Sessions

Chair: Kay M. Stanney, U. of Central Florida & Design Interactive; *Cochair:* Leah M. Reeves, Potomac Inst. for Policy Studies

1. Gwendolyn E. Campbell, Naval Air Warfare Ctr. Training Systems Div.; Phan Luu, Electrical Geodesics, Inc., **A Preliminary Comparison of Statistical and Neurophysiological Techniques to Assess the Reliability of Performance Data**
2. Tom Schnell and Mike Keller, U. of Iowa; Todd Macuda, National Research Council of Canada, **Application of the Cognitive Avionics Tool Set (CATS) in Airborne Operator State Classification**
3. Leonard J. Trejo, Neil J. McDonald, and Robert Matthews, Quantum Applied Science and Research; Brendan Z. Allison, Scripps Research Institute, **Experimental Design and Testing of a Multimodal Cognitive Overload Classifier**
4. Santosh Mathan, Thea Feyereisen, and Stephen D. Whitlow, Honeywell Labs, **WorkSense: Exploring the Feasibility of Human Factors Assessment Using Electrophysiological Sensors**
5. Ronald Stevens and Trysha Galloway, IMMEX Project/U. of California, Los Angeles; Chris Berka, Advanced Brain Monitoring, **Allocation of Time, EEG-Engagement and EEG-Workload Resources as Scientific Problem-Solving Skills Are Acquired in the Classroom**

HC2 – MINIMALLY INVASIVE HUMAN FACTORS

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon I/II (3rd Floor)

Health Care

Chair: Caroline G. L. Cao, Tufts U.

1. Mi Zhou, Tufts U.; Daniel Jones, Beth Isarel Deaconess Medical Ctr.; Steven D. Schweitzberg, Cambridge Health Alliance; Caroline G. L. Cao, Tufts U., **Role of Haptic Feedback and Cognitive Load in Surgical Skill Acquisition**
2. Mi Zhou, Tufts U.; Jesse Perreault, Proteus Design, Inc.; Steven D. Schweitzberg, Cambridge Health Alliance; Caroline G. L. Cao, Tufts U., **Shifts in Force Perception Threshold in Laparoscopic Surgery With Experience**
3. Kellie L. Mathis and Douglas A. Wiegmann, Mayo Clinic, **Initial Construct Validation of a Laparoscopic Surgical Simulator**
4. Audrey K. Bell and Caroline G. L. Cao, Tufts U., **How Does Artificial Force Feedback Affect Laparoscopic Surgery Performance?**
5. Tammy E. Ott, Texas Tech U., **Can an Elderly Stereotype Prime Degrade Performance on a Simulated Surgical Task?**

ID2 – INDIVIDUAL DIFFERENCES IN PERFORMANCE, STRESS, AND COPING

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Kent A/B/C (4th Floor)

Individual Differences

Chair: Gerald Matthews, U. of Cincinnati

1. Angela N. Fellner, Gerald Matthews, Gregory J. Funke, and Amanda K. Emo, U. of Cincinnati; Juan C. Perez-Gonzalez, Universidad Nacional de Educacion a Distancia; Moshe Zeidner, U. of Haifa; Richard D. Roberts, Educational Testing Service, **The Effects of Emotional Intelligence on Visual Search of Emotional Stimuli and Emotion Identification**
2. Lauren E. Reinerman, Gerald Matthews, Joel S. Warm, and Lisa K. Langheim, U. of Cincinnati, **Predicting Cognitive Vigilance Performance From Cerebral Blood Flow Velocity and Task Engagement**
3. Thomas Davis, U.S. Army Research Lab; Thurmon E. Lockhart, Virginia Tech, **Effects of Stress, Coping Style, and Confidence on Basic Combat Training Attrition**
4. Valerie J. Rice, U.S. Army Research Lab; Jenny Butler, Karta Technologies, **Revisiting an Old Question With a New Technology: Gender**

Differences on a Neurocognitive Temporal Tracking Task

5. Cortney V. Martin, Virginia Tech, **The Importance of Self-Efficacy to Usability: Grounded Theory Analysis of a Child's Toy Assembly Task**

IE2 – THE WORLD OF STABILITY: POSTURAL AND SPINE

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon III/IV (3rd Floor)

Industrial Ergonomics

Chair: Thurman E. Lockhart, Virginia Tech; *Cochair:* Thomas J. Albin, Auburn Engineers

1. Prakriti Parijat and Thurmon E. Lockhart, Virginia Tech, **Influence of Localized Muscle Fatigue of the Knee Joint on Gait Parameters Related to Slip Propensity**
2. Sunwook Kim and Maury A. Nussbaum, Virginia Tech, **Sensitivity and Reliability of Local Dynamic Stability: Effects of Age and Altered Sensory Conditions**
3. Rakie Cham and Peter Sandrian, U. of Pittsburgh, **Arm Movements and Slip Severity**
4. Jian Liu, Thurmon E. Lockhart, and Kevin P. Granata (deceased), Virginia Tech, **Effect of Load Carrying on Local Dynamic Stability**
5. Kevin P. Granata (deceased; paper will be presented by Kermit Davis) and Hyunwook Lee, Virginia Tech, **Dynamic Stability in Pushing and Pulling Tasks**

PDI – SIXTH ANNUAL USER-CENTERED PRODUCT DESIGN AWARD

Alternative Format

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Product Design

Chair: Stan Caplan, Usability Assoc.; *Cochair:* Diane McMullin, Boeing

Winner to be announced, followed by a presentation about the winning product.

SF3 – A GUIDE TO SUCCESSFUL HF/E CAREER PREPARATION: THE ULTIMATE “NOT-TO-DO” LIST

Discussion Panel

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Laurel C/D (4th Floor)

Student Forum

Chair: Ronald G. Shapiro, IBM

Panelists: Anthony D. Andre, San Jose State U.; Arnold M. Lund, Microsoft; Todd Barlow, SAS; Sara Waxberg, Baxter Healthcare Corp.

TI – METHODS AND PROCEDURES FOR TACTICAL TRAINING

Lecture

Tuesday, October 2, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon IX/X (3rd Floor)

Training

Chair: Erika Rovira, U.S. Military Academy; *Cochair:* Lee W. Sciarini, U. of Central Florida

1. Leah J. Rowe, L-3 Communications; Sara E. Gehr, Boeing Co.; Winston Bennett, U.S. Air Force Research Lab; Nancy J. Cooke, Arizona State U., **Assessing Distributed Mission Operations Using the Air Superiority Knowledge Assessment System**
2. Emily M. Stelzer and William Salter, Aptima, Inc., **Technology and Procedures for Debriefing Distributed Training Should Be Designed Simultaneously**
3. Jerzy Jarmasz, Defence R&D Canada–Toronto, **Accelerated Training With Microworlds for Command Decision Making**
4. Wayne Shebilske, Wright State U.; Kevin Gildea, Jared T. Freeman, and Georgiy Levchuk, Aptima, Inc., **Training Experienced Teams for New Experiences**

**Tuesday, October 2
5:30 to 7:00 p.m.**

Technical Group Business Meeting

Product Design

5:30 to 7:00 p.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Tuesday
Oct. 2

Wednesday, October 3

7:00 to 8:30 a.m.

Technical Group Business Meetings

Education

7:00 to 8:30 a.m. (breakfast)

Falkland (4th Floor)

Test & Evaluation

7:00 to 8:30 a.m. (breakfast)

Chasseur (3rd Floor)

Wednesday, October 3

8:30 to 10:00 a.m.

CE5 – META-INFORMATION COMMUNICATION AND REPRESENTATION

Discussion Panel

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Jonathan D. Pfautz, Charles River Analytics;

Cochair: Emilie M. Roth, Roth Cognitive Engineering

Panelists: Ann M. Bisantz, U. at Buffalo-SUNY; Cullen Jackson, Aptima, Inc.; Gina Thomas, U.S. Air Force Research Lab; J. Gregory Trafton, U.S. Naval Research Lab; Randall Whittaker, Northrop

CE6 – WORKING WITH INTERRUPTIONS

Lecture

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon I/II (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Tabbeus M. Lamoureux, Humansystems Inc.;

Cochair: Kara Latorella, NASA

1. Mark F. St. John, Harvey S. Smallman, and Daniel I. Manes, Pacific Science & Engineering Group, **Interruption Recovery Tools for Team Collaboration**
2. David M. Cades, George Mason U.; J. Gregory Trafton, U.S. Naval Research Lab; Deborah A. Boehm-Davis and Christopher A. Monk, George Mason U., **Does the Difficulty of an Interruption Affect Our Ability to Resume?**
3. Keryl Cosenzo, U.S. Army Research Lab, **The Effects of Multitasking on Cerebral Hemodynamics and Task Performance**

4. Raj M. Ratwani and Alyssa E. Andrews, George Mason U.; Malcolm McCurry and J. Gregory Trafton, U.S. Naval Research Lab; Matthew S. Peterson, George Mason U., **Using Peripheral Processing and Spatial Memory to Facilitate Task Resumption**
5. David Kidd and Christopher A. Monk, George Mason U., **More Is Less: The Effect of Single- and Multiple-Interleaved Interruptions on Task Resumption**

CI – GETTING THROUGH TO OTHER PEOPLE – TEAM AND INDIVIDUAL COMMUNICATION

Lecture

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Kent A/B/C (4th Floor)

Communication

Chair: Camilla C. Knott, NRC; *Cochair:* Aaron Bangor, AT&T Labs, Inc.

1. Jennifer J. Winner, Arizona State U.; Jared T. Freeman, Aptima, Inc.; Nancy J. Cooke, Arizona State U.; Gerald F. Goodwin, U.S. Army Research Inst., **A Metric for the Shared Interpretation of Commander's Intent**
2. Gregory J. Funke, General Dynamics; Scott M. Galster, U.S. Air Force Research Lab, **The Effects of Communication Modality and Spatial Processing Load on Distributed Team Performance in a Simulated C2 Environment**
3. Christina C. Mendat, HumanCentric Technologies; Christopher B. Mayhorn, North Carolina State U., **Oops, Wrong Number: Exploring Age and Cellular Telephone Dialing Performance**
4. Adam G. Armstead and Robert A. Henning, U. of Connecticut, Storrs, **Effects of Long Audio Communication Delays on Team Performance**
5. Jesse S. Zolna, Georgia Tech, **Does Multimodal Presentation Encourage Integration of Multimedia Materials? A Pilot Study**

CSI – INFORMATION INPUT AND SECURITY

Lecture

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Grand Ballroom VII/VIII (3rd Floor)

Computer Systems

Chair: Kenneth R. Ohnemus, Ascentium Corp.;

Cochair: Richard Pak, Clemson U.

1. Martin Schedlbauer, U. of Massachusetts, Lowell, **Effects of Key Size and Spacing on the Completion Time and Accuracy of Input Tasks on Soft Keypads Using Trackball and Touch Input**

2. Thomas Tullis, Ellen Mangan, and Richard Rosenbaum, Fidelity Investments, **An Empirical Comparison of On-Screen Keyboards**
3. Korey Johnson and Steffen Werner, U. of Idaho, **Memorability of Alphanumeric and Composite Scene Authentication (CSA) Passcodes Over Extended Retention Intervals**
4. Yuen-Keen Cheong, Randa L. Shehab, and Chen Ling, U. of Oklahoma, **Movement Kinematics and Their Relationship With Performance in a Target Acquisition Task Using a Mouse**
5. Robert Pastel, Paul Himes, Matthew Harper, and William S. Helton, Michigan Technological U., **Gravity Mouse Design and Evaluation: Effects of Distractors and Target Size**

EI – HUMAN FACTORS IN LEARNING AND TEACHING

Lecture

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Laurel C/D (4th Floor)

Education

Chair: Chang S. Nam, U. of Arkansas; *Cochair:*

Rebecca Boren, Arizona State U.

1. Jesse S. Zolna and Richard Catrambone, Georgia Tech, **The Effects of Study Time and Presentation Modality on Learning**
2. William F. Moroney, U. of Dayton, **Placement Opportunities for Human Factors Engineering and Ergonomics Professionals**
3. Brenda L. Martinez-Papponi and Timothy E. Goldsmith, U. of New Mexico, **Verbal Ability and Structured Navigation on Learning With Hypertext**
4. Terence S. Andre and Margaret Schurig, U.S. Air Force Academy, **Teaching Usability Methods to Undergraduate Students: Can We Measure Changes in Experience?**
5. Andris Freivalds, Penn State U., **Use of the Tablet PC for Human Factors Instruction**

HC3 – DEVELOPING AND USING TEAM PERFORMANCE MEASURES IN HEALTH CARE: LESSONS LEARNED

Invited Symposium

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Grand Ballroom IX/X (3rd Floor)

Health Care

Chair: Yan Xiao, U. of Maryland; *Cochair:* Tanja Manser, Ctr. for Organizational and Occupational Sciences

1. Yan Xiao, U. of Maryland; Tanja Manser, Ctr. for Organizational and Occupational Sciences, **Developing and Using Team Performance Measures in Health Care: Lessons Learned**

2. Tanja Manser, Ctr. for Organizational and Occupational Sciences; T. Kyle Harrison, Steven K. Howard, and David M. Gaba, VA Palo Alto Health Care System, **Coordination Patterns and Clinical Performance Levels in the Management of a Simulated Anesthetic Crisis**
3. Steven Yule and Rhona Flin, U. of Aberdeen; Nicola Marin, Royal Infirmary; David Rowley, U. of Dundee; George Youngson, Royal Aberdeen Children's Hospital; Simon Paterson-Brown, Royal Infirmary, **Debriefing Surgeons on Nontechnical Skills in the Operating Room – Results From a Pilot Study**
4. Jason Slagle, Audrey Kuntz, Dan France, Ted Speroff, Abeer Madbouly, and Matthew B. Weinger, Vanderbilt U., **Simulation Training for Rapid Assessment and Improved Teamwork – Lessons Learned From a Project Evaluating Clinical Handoffs**
5. Shabnam Undre, Andrew Healey, Nick Sevdalis, Maria Koutantji, and Charles Vincent, Imperial College, **The Observational Teamwork Assessment for Surgery (OTAS): Development, Feasibility, and Reliability**
6. Barbara Kuenzle, Swiss Federal Inst. of Technology; Yan Xiao, Colin Mackenzie, F. Jacob Seagull, Thomas Grissom, Amy Sisley, and Richard Dutton, U. of Maryland, **Development of an Instrument for Assessing Trauma Team Performance**

MEI – MACROERGONOMICS AND PATIENT SAFETY IN HEALTH CARE

Discussion Panel

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Essex A/B/C (4th Floor)

Macroergonomics; cosponsored by Health Care

Chair: Carla Alvarado, U. of Wisconsin-Madison;

Cochair: Pascale Carayon, U. of Wisconsin-Madison

Panelists: Pascale Carayon, U. of Wisconsin-Madison; Rollin J. (Terry) Fairbanks, U. of Rochester; Ben-Tzion Karsh, U. of Wisconsin-Madison; Shawna J. Perry, U. of Florida-Jacksonville; Joseph Sharit, U. of Miami

STI – DRIVER SAFETY WARNINGS & ALERTS

Lecture

Wednesday, October 3, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon III/IV (3rd Floor)

Surface Transportation

Chair: Miguel Perez, Virginia Tech Transportation Inst.

1. Gregory M. Fitch, Virginia Tech; Raymond J. Kiefer, General Motors; Brian M. Kleiner and Jonathan M. Hankey, Virginia Tech, **Identifying the Pattern of Localization Responses With a**

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Haptic Seat Intended to Alert Drivers to the Direction of a Crash Threat

2. Anand Tharanathan and Patricia R. DeLucia, Texas Tech U., **Detecting the Deceleration of a Lead Car During Active Control of Virtual Self-Motion**
3. Makoto Itoh and Toshiyuki Inagaki, U. of Tsukuba, **Adapting Alarm Threshold to Driver's Brake Timing: Is It More Effective and/or Acceptable Than Stopping Distance Algorithm?**
4. Daniel McGehee and John D. Lee, U. of Iowa; Michael Rakauskas and Nicholas J. Ward, U. of Minnesota; Bruce Wilson, U.S. Dept. of Transportation Volpe Ctr., **The Effect of Lateral Drift and Curve Speed Warnings on Driver Response**

Wednesday, October 3 10:30 a.m. to 3:00 p.m.

SS2 – HFES PRESIDENTS: THE GOOD AND THE BAD

Alternative Format

Wednesday, October 3, 10:30 a.m. to 3:00 p.m.
Grand Ballroom Salon V (3rd Floor)

Special Sessions

Chair: Richard J. Hornick, Hornick & Assoc.

This informal session features past HFES presidents, who will reminisce about their good and bad experiences conducting human factors/ergonomics work. The session resumes after lunch to allow speakers and attendees to interact.

Wednesday, October 3 10:30 a.m. to 12:00 noon

POS2 – POSTERS

Poster Session

Wednesday, October 3, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon VI (3rd Floor)

Posters

Chair: Jessica Ray, U. of Central Florida; *Cochair:* Aksi Kakar, Virginia Tech

Posters are 90 minutes only; presenters are required to be present throughout the session.

Human-Computer Interaction

1. Philip Kortum, Rice U.; Lauren F. V. Scharff, Stephen F. Austin State U., **The Effect of Small**

Changes in Web Page Navigation Links on the Performance of Users Who Revisit Sites

2. Jeff Hardee and Christopher B. Mayhorn, North Carolina State U., **Reexamining Synthetic Speech: Intelligibility and the Effects of Age, Task, and Speech Type on Recall**
3. Shannon K. Riley and Barbara S. Chaparro, Wichita State U., **The Use of Bullets in Textual Web Content**

Communication/Information Presentation

4. Philip Kortum, Rice U.; S. Camille Peres, U. of Houston Clear Lake, **A Survey of Secondary Activities of Telephone Callers Who Are Put on Hold**
5. Andrea Krausman and Timothy White, U.S. Army Research Lab, **Using the Tactile Modality as a Communication Medium for Dismounted Soldiers**
6. Benjamin A. Knott, General Dynamics AIS; W. Todd Nelson, U.S. Air Force Research Lab; Rebecca D. Brown, General Dynamics AIS; Allen W. Dukes and Robert S. Bolia, U.S. Air Force Research Lab, **Assessment of a Novel Chat-Messaging Interface for Rapid Communication in Tactical Command and Control**
7. Christopher Miller and Peggy Wilson, Smart Information Flow Technologies; Debra Schreckenghost, TRAC Labs, **Computation of Information Match: Application to Procedure Execution Displays**
8. John Morris, Arathi Sethumadhavan, Sara Giroto, and Francis T. Durso, Texas Tech U.; Jerry Crutchfield, Federal Aviation Admin., **The Structure of Information in the Air Traffic Control Tower**
9. Jennifer L. Dyck, SUNY, Fredonia, **Teaching Human Factors Principles Through Design of an EXIT Sign**

Visual Search/Spatial Abilities

10. Sally A. Stader, Grant S. Taylor, and JoAnn Harvan-Chin, U. of Central Florida, **Predicting Memory for Words and Symbols From Spatial Abilities**
11. Christopher A. Sanchez and Russell J. Branaghan, Arizona State U. Polytechnic, **The Interaction of Map Resolution and Spatial Abilities on Route Learning**
12. Pamela Greenwood, George Mason U.; Sarah Henrickson, Mayo Clinic; Raja Parasuraman, George Mason U., **Visuospatial Attention Is Distributed Around a Target With an Inhibitory Surround in Older Adults During Visual Search**
13. David G. Curry, ITC Expert Services; Edward A. Nielsen, Jason W. Kidd, and Matthew R. Tuttle, Packer Engineering, **Driver Detection of Roadside Obstacles at Night**

14. Camilla C. Knott, National Research Council; W. Todd Nelson, Megan K. McCrosky, and Brent T. Miller, U.S. Air Force Research Lab, **Do You See What I See? Effects of Communication on Scanning Strategies in Change Detection by Individuals and Teams of Observers**
15. Shivashankar Naidu, Wichita State U., **Examining the Effect of Grouping Border Type on Visual Search Performance**
16. Jason Augustyn and Caroline Mahoney, U.S. Army Natick Soldier Research, Development, and Engineering Ctr.; Martha Fletcher, U.S. Army Research Lab; Edward Hirsch, U.S. Army Natick Soldier Research, Development, and Engineering Ctr., **Watching Where You're Going: An Analysis of the Spatial and Temporal Distribution of Attention During Walking**
17. Peter Squire, George Mason U.; Camilla C. Knott, NRC Postdoctoral Fellow; Pamela Greenwood, George Mason U., **How Many Were There? B386 Attentional Scaling in the Search for Multiple Targets in Young and Old**
18. Sav Shrestha, Kelsi M. Lenz, Justin Owens, and Barbara S. Chaparro, Wichita State U., **"F" Pattern Scanning of Text and Images in Web Pages**
19. Jennifer M. Ross, U. of Central Florida; John S. Barnett and Larry Meliza, U.S. Army Research Inst., **Effect of Audiovisual Alerts on Situation Awareness and Workload in a Net-Centric Warfare Scenario**

ACI – Augmented Cognition International

20. Mark F. St. John and Matthew R. Risser, Pacific Science & Engineering Group, **Mitigating the Vigilance Decrement: Perceptual Versus Cognitive Interventions**
21. Matthew A. Yanagi, Space and Naval Warfare Systems Ctr.; Chris Berka, Gene Davis, Daniel Levendowski, and Robin R. Johnson, Advanced Brain Monitoring, Inc.; Wayne Ensign, Space and Naval Warfare Systems Ctr., **Augmented Napping: Development of an Intelligent Sleep Aid**
22. Julie Drexler, Lee W. Sciarini, Peter Smith, and Denise M. Nicholson, U. of Central Florida, **Playing Games With the Mind: Augmented Cognition in the Entertainment Industry**
23. William Torch, Washoe Sleep Disorders Center and EyeCom Corp.; Michael B. Russo and Carlos Cardillo, U.S. Army Aeromedical Research Lab; Maria L. Thomas, Johns Hopkins U. School of Medicine, **Eye-Com® Biosensor, Communicator & Controller System for Assessing Cognitive State Via Oculomotor Signals**
24. Jefferson Grubb, NAVAIR; Melissa W. Nelson, Naval Air Warfare Ctr. Training Systems Div.; Philip Fatolitis, U.S. Navy; Meagan Shutty and

Jordan Knicely, Red, Inc., **Evaluation of Psychophysiological Sensor Data's Contribution to Enhancing Training Effectiveness: What Do We Know?**

Wednesday, October 3 12:00 noon to 1:30 p.m.

Technical Group Business Meeting

Aging

12:00 noon to 1:30 p.m. (lunch)
Laurel A/B (4th Floor)

Perception & Performance

12:00 noon–1:30 p.m. (lunch)
Chasseur (3rd Floor)

Wednesday, October 3 1:30 to 3:00 p.m.

Wednesday
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ASI – AUTOMATION AND DISPLAYS

Lecture

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.
Kent A/B/C (4th Floor)
Aerospace Systems

Chair: Kathleen L. Mosier, San Francisco State U.;
Cochair: Emily M. Stelzer, Aptima, Inc.

1. Thomas Sheridan, U.S. Dept. of Transportation Volpe Ctr, **Human-Automation Interaction in the Next-Generation Air Transportation System**
2. Vittesh V. Kalambi, Amy R. Pritchett, and Daniel P. J. Bruneau, Georgia Tech; David B. Kaber, North Carolina State U.; Mica R. Endsley, SA Technologies, **In-Flight Planning and Intelligent Pilot Aids for Emergencies and Nonnominal Flight Conditions Using Automatically Generated Flight Plans**
3. Fenne Roefs, Erik Theunissen, and Gregorius Koeners, Delft U. of Technology, **Manual Versus Speech Input for Entering a Taxi Route Into an Electronic Flight Bag**
4. Divya Chandra and Michelle Yeh, U.S. Dept. of Transportation Volpe Ctr.; Colleen Donovan, Federal Aviation Admin., **Pilot Identification of Proposed Electronic Symbols for Displays of Aeronautical Charting Information**

Program at a Glance

Monday

Tuesday

8:30 – 10:00 a.m.

Student Career Day, Waterview A/B

Morning-Only Workshops, 8:30 a.m. – 12:00 noon

- WK1 Stairway Usability & Safety, Part 1, *Laurel A/B*
- WK2 Ergonomic Solutions, *Grand Ballroom VII*

All-Day Workshops, 9:00 a.m. – 4:30 p.m.

- WK5 Test & Evaluation of Complex Systems, *Grand Ballroom I*
- WK6 Cognitive Work Analysis, *Grand Ballroom VIII*
- WK7 System Design & Performance Modeling, *Laurel C*
- WK8 Workload & Situation Awareness, *Grand Ballroom IV*
- WK9 Enhancing Situation Awareness, *Grand Ballroom III*
- WK10 Systems Engineering, *Grand Ballroom VIII*
- WK14 Design Chautauqua, *Grand Ballroom II*

8:00 – 10:15 a.m.

Opening Plenary Session, *Grand Ballroom V/VI*

10:30 – 12:00 noon

Student Career Day continues

Morning-Only Workshops continue

All-Day Workshops continue

- CE1 Cognition Under Stress, *Dover A/B/C*
- CE2 Working With Automation, *Grand Ballroom III/III*
- GS1 President's Forum, *Grand Ballroom VIII/VIII*
- HC1 Reliability in Health Care, *Grand Ballroom III/IV*
- ID1 Individual Differences: Approaches, *Kent A/B/C*
- PP1 Perception in Aerospace Applications, *Grand Ballroom IX/IX*
- SI Warnings & Risk Perception, *Essex A/B/C*

1:30 – 3:00 p.m.

Student Career Day continues

All-Day Workshops continue

Afternoon-Only Workshop, 1:30 – 5:00 p.m.

- WK3 Stairway Usability & Safety, Part 2, *Laurel A/B*

- A1 Aging, Technology, Product Design, *Grand Ballroom VII/VIII*
- CE3 Technology Failures, CE Successes, *Grand Ballroom III*
- HP1 Modeling Performance & Environment, *Kent A/B/C*
- IE1 Upper Extremity & Workstations, *Grand Ballroom III/IV*
- II Internet, *Essex A/B/C*
- PP2 Neuroergonomics of Visual Cognition, *Grand Ballroom IX/IX*
- POS1 Poster Session 1, *Grand Ballroom VI*
- SS1 Future of HF/E, *Dover A/B/C*
- SF2 Student Research on Driver Behavior, *Laurel C/D*

3:30 – 5:00 p.m.

Student Career Day continues

All-Day Workshops continue

Afternoon-Only Workshop continues

- CE4 Awareness in Complex Environments, *Dover A/B/C*
- GS2 Best of ACI 2007, *Essex A/B/C*
- HC2 Minimally Invasive HF, *Grand Ballroom III*
- ID2 Individual Differences: Performance, Stress, *Kent A/B/C*
- IE2 Posture & Spine Stability, *Grand Ballroom III/IV*
- PD1 Product Design Award, *Grand Ballroom VIII/VIII*
- SF3 HF/E Career Preparation, *Laurel C/D*
- T1 Tactical Training, *Grand Ballroom IX/IX*

Evening

4:45 – 6:15 p.m.

National Ergonomics Month Session, *Dover A/B/C*

6:30 – 9:00 p.m.

Gala Opening Reception, *Grand Ballroom Salon*

5:00 – 6:00 p.m.

Student Reception, *Waterview*

6:00 – 7:00 p.m.

HFES Business Meeting, *Grand Ballroom III*

Wednesday

- CE5 Metainformation Communication, *Dover A/B/C*
- CE6 Working With Interruptions, *Grand Ballroom III*
- CI Team & Individual Communication, *Kent A/B/C*
- CS1 Information Input & Security, *Grand Ballroom VII/VIII*
- E1 HF in Learning & Teaching, *Laurel C/D*
- HC3 Team Performance in Health Care, *Grand Ballroom IX/X*
- ME1 Macroergonomics & Patient Safety, *Essex A/B/C*
- ST1 Driver Safety Warnings, *Grand Ballroom III/IV*

Thursday

- CE8 Using & Applying CWA, *Dover A/B/C*
- FP1 Forensics Professional, *Kent A/B/C*
- GS4 Ergonomics Professionalism, *Grand Ballroom III*
- HC5 Task Support in Medical Contexts, *Grand Ballroom IX/X*
- IE4 Manual Material Handling, *Grand Ballroom III/IV*
- PP3 Perception Theory & Practice, *Grand Ballroom VII/VIII*
- PD2 Product Potpourri, *Laurel C/D*
- TE1 Human-System Performance, *Essex A/B/C*

Friday

- CE13 Macrocognition Metrics, *Dover A/B/C*
- ED1 Workspace Perceptions & Design, *Essex A/B/C*
- GS6 HF in Complex Environments, *Grand Ballroom III*
- PP5 Haptics Control & Imagery, *Grand Ballroom VII/VIII*
- PD4 PD Information & Instruction, *Laurel C/D*
- S3 Construction & Industry Safety, *Grand Ballroom IX/X*
- T2 Training Potpourri, *Kent A/B/C*

8:30 a.m. – 1:30 p.m.

- SS3 Litigation Mock Trial, *Grand Ballroom III/IV*

- POS2 Poster Session 2, *Grand Ballroom VI*

10:30 a.m. – 3:00 p.m.

- SS2 HFES Presidents, *Grand Ballroom V*

- CE9 Intelligence Analysis, *Dover A/B/C*
- CS3 Usability, *Grand Ballroom VII/VIII*
- DEMI Demonstrations, *Grand Ballroom V*
- HC6 Understanding the Medication Process, *Grand Ballroom IX/X*
- HP2 Cognitive Modeling Tools, *Kent A/B/C*
- ME2 Info Management Across Organizations, *Essex A/B/C*
- PD3 Pointing Devices, *Laurel C/D*
- S2 International Risk Communication, *Grand Ballroom III*
- SF4 Student Research on Automation, *Grand Ballroom III/IV*

- A2 Aging & Ergonomic Design, *Kent A/B/C*
- CE14 All About Communicating, *Dover A/B/C*
- GS7 Lessons From HF Leaders, *Grand Ballroom III*
- PD5 Methods, Tools, Aesthetics, *Laurel C/D*
- S4 Safety Potpourri, *Grand Ballroom IX/X*
- ST3 Driver Safety Potpourri, *Grand Ballroom VII/VIII*
- SD2 Behavioral Science in Acquisition, *Essex A/B/C*
- SS3 Continues

12:15 – 1:30 p.m.

- Closing Plenary Session, *Grand Ballroom V*

- AS1 Automation & Displays, *Kent A/B/C*
- CE7 Decision Making Gets Tough, *Dover A/B/C*
- CS2 Information Display, *Grand Ballroom VII/VIII*
- GS3 Arnold Small Lecture, *Grand Ballroom III*
- HC4 Human Factors in the ICU, *Grand Ballroom IX/X*
- IE3 Musculoskeletal Disorders, *Grand Ballroom III/IV*
- VE1 HF in Virtual Environments, *Laurel C/D*
- SS2 Continues

- AS2 Safety & Training, *Kent A/B/C*
- CE10 Understanding Cognitive Work, *Dover A/B/C*
- E2 CE Textbook Design Specs, *Laurel C/D*
- GS5 Serious Games, *Grand Ballroom III*
- HC7 Applying HF to Clinical Training, *Grand Ballroom IX/X*
- IE5 Ergonomic Sensor Development, *Grand Ballroom III/IV*
- PP4 Auditory, Visual, & Haptic Cueing, *Grand Ballroom VII/VIII*
- POS3 Poster Session 3, *Grand Ballroom VI*
- SD1 Operational Applications, *Essex A/B/C*

3:00 – 6:30 p.m.

- Technical Group Business Meetings (see page 21)

- AS3 Air Traffic Control, *Kent A/B/C*
- CE11 Working With Spatial Knowledge, *Dover A/B/C*
- CE12 Influencing How People Work, *Grand Ballroom III*
- HC8 Practical Issues in Medical HF, *Grand Ballroom IX/X*
- HP3 Cognition & Performance Through Modeling, *Laurel C/D*
- IE6 Practical Application of Ergonomics, *Grand Ballroom III/IV*
- ME3 Employment of Cancer Survivors, *Essex A/B/C*
- ST2 Driver Distraction, *Grand Ballroom VII/VIII*

5. Gloria L. Calhoun, U.S. Air Force Research Lab; Heath A. Ruff, General Dynamics; Austen T. Lefebvre, Mark H. Draper, and Antonio M. Ayala, U.S. Air Force Research Lab, "Picture-in-Picture" Augmentation of UAV Workstation Video Display

CE7 – DECISION MAKING GETS TOUGH

Lecture

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.
Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Patricia McDermott, Alion Science and Technology MA&D Operation; *Cochair:* Jennifer Jeon, U. of Waterloo

1. Alex Kirlik, U. of Illinois at Urbana-Champaign, **Lessons Learned From the Design of the Decision Support System Used in the Hurricane Katrina Evacuation Decision**
2. Damodar Bhandarkar, Penn State U., **Framing Effects: Implications in Complex Problem-Solving Tasks**
3. Kathleen L. Mosier, Michael Bartholomew, Eva Meng, and Luiz Xavier, San Francisco State U., **Risk, Ambiguity, and Information Use in an Ethical Decision Dilemma**
4. Winston Sieck, Jennifer Smith, and Anna McHugh, Klein Assoc., **Cross-National Comparison of Team Competency Values**
5. Moin Rahman, Motorola, **High-Velocity Human Factors: Human Factors of Mission-Critical Domains in Nonequilibrium**

CS2 – INFORMATION DISPLAY AND MANAGEMENT

Lecture

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.
Grand Ballroom VII/VIII (3rd Floor)

Computer Systems

Chair: Douglas L. Gardner, LexisNexis; *Cochair:* Wendy Yee, User Centric, Inc.

1. Jennifer L. Dyck, SUNY, Fredonia; Marie P. Panepinto, North Carolina State U.; Amanda K. Emo, U. of Cincinnati; Thaddeus Wojcik, Alion Science and Technology MA&D Operation, **The Effect of Automated Telephone Menu Structure on User Frustration and Performance**
2. M. Ryan Chipley and Todd Barlow, SAS, **Executive Dashboard Widgets: A Performance-Based Comparative Analysis**
3. Andrew J. Afram, John Briedis, Daisuke Fujiwara, Robert J. K. Jacob, Caroline G. L. Cao, and David Kahle, Tufts U., **Evaluation of Semantic Fish-eye Zooming to Provide Focus+Context**

4. Doug Fox, A. Dawn Shaikh, and Barbara S. Chaparro, Wichita State U., **The Effect of Type-face on the Perception of Onscreen Documents**

GS3 – ARNOLD SMALL LECTURE IN SAFETY

Invited Address

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.

Grand Ballroom I/II (3rd Floor)

General Sessions; cosponsored by Safety

Chair: William J. Vigilante, Robson Forensic, Inc.;
Cochair: Tonya Smith-Jackson, Virginia Tech

Kenneth Laughery, Rice U.; Michael S. Wogalter, North Carolina State U., **Warnings: Where Are We Now? How Did We Get Here? What Should We Do Next?**

HC4 – HUMAN FACTORS IN THE ICU

Lecture

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.

Grand Ballroom Salon IX/X (3rd Floor)

Health Care

Chair: Ayse Gurses, U. of Minnesota

1. Frank Drews, U. of Utah, **The Frequency and Impact of Task Interruptions in the ICU**
2. Anne Miller, U. of Queensland; Carlos Scheinkestel and Michele Joseph, Alfred Hospital, **Team Coordination in the Intensive Care Unit**
3. Michael F. Rayo, Ohio State U.; Matthew B. Weinger, Vanderbilt U. Medical Ctr.; Philip J. Smith, Ohio State U.; Jason Slagle, Vanderbilt U. Medical Ctr.; Timothy R. Dresselhaus, VA San Diego Healthcare System, **Assessing Medication Safety Technology in the Intensive Care Unit**
4. Anne Miller, U. of Queensland; Cathie Steele, Australian Ctr. for Health Innovation; Carlos Scheinkestel, Alfred Hospital, **Extending Clinical Information Systems Design in the ICU**
5. Frank A. Drews, Adrian Musters, Brian Markham, and Matthew H. Samore, U. of Utah, **Error-Producing Conditions in the Intensive Care Unit**

IE3 – THE COMPLEXITIES OF MUSCULOSKELETAL DISORDERS: UNTANGLING THE WEB

Invited Address

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.

Grand Ballroom III/IV (3rd Floor)

Industrial Ergonomics

Chair: Victor Paquet, U. at Buffalo-SUNY; *Cochair:*

Gary A. Mirka, North Carolina State U.

1. William S. Marras, Ohio State U., **Variability in Physical Load Between and Within Individuals at Work – Trick or Treat?**
2. Svend E. Mathiassen, U. of Gävle, **The Working Back**

VE1 – HUMAN FACTORS IN VIRTUAL ENVIRONMENTS

Lecture

Wednesday, October 3, 2007, 1:30 to 3:00 p.m.

Laurel C/D (4th Floor)

Virtual Environments

Chair: Geb Thomas, U. of Iowa; *Cochair:* Ronald R. Mourant, Northeastern U.

1. Alexander D. Walker, Joshua Gomer, and Eric R. Muth, Clemson U., **The Effect of Input Device on Performance of a Driving Task in an Uncoupled Motion Environment**
2. Leonard J. Smart and Edward W. Otten, Miami U.; Thomas A. Stoffregen, U. of Minnesota, **It's Turtles All the Way Down: A Comparative Analysis of Visually Induced Motion Sickness**
3. James C. Maida, NASA Johnson Space Ctr.; Charles K. Bowen, Lockheed Martin; John W. Pace, NASA Johnson Space Ctr., **Improving Robotic Operator Performance Using Augmented Reality**
4. Michael J. Singer, U.S. Army Research Inst., **The Evaluation of a Distributed Online Simulation During a Battalion Staff Exercise**
5. Hua Cai, Yingzi Lin, and Ronald R. Mourant, Northeastern U., **Evaluation of Driver Visual Behavior and Road Signs in a Virtual Environment**
6. Joy Oguntebi, U. of Michigan, **Optimizing the Functionality of Teams With Dispersed Individuals: An Exploration Into the Conditions for Effective Knowledge Management Applications in Virtual Teams**

Wednesday, October 3

3:00 to 6:30 p.m.

Technical Group Business Meetings

Aerospace Systems

3:30 to 4:30 p.m. (reception)

Suite 708

Cognitive Engineering and Decision Making

4:30 to 5:30 p.m. (reception)

Dover A/B/C (3rd Floor)

Communications

5:30 to 6:30 p.m. (reception)

Grand Ballroom Salon VII/VIII (3rd Floor)

Computer Systems

3:00 to 4:30 p.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Environmental Design

3:15 to 4:30 p.m. (reception)

Grand Ballroom Salon III/IV (3rd Floor)

Forensics Professional Group

5:30 to 6:30 p.m. (reception)

Grand Ballroom Salon I/II (3rd Floor)

Health Care

5:30 to 6:30 p.m.

Grand Ballroom Salon IX/X (3rd Floor)

Human Performance Modeling

5:30 to 6:30 p.m. (reception)

Essex A/B/C (4th Floor)

Internet

4:30 to 5:30 p.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Macroergonomics

3:15 to 4:30 p.m. (reception)

Grand Ballroom Salon III/IV (3rd Floor)

Safety

4:30 to 5:30 p.m.

Grand Ballroom Salon I/II (3rd Floor)

Surface Transportation

5:00 to 6:30 p.m. (reception)

Grand Ballroom Salon III/IV (3rd Floor)

System Development

4:30 to 5:30 p.m. (reception)

Essex A/B/C (4th Floor)

Training

3:15 to 4:30 p.m.

Essex A/B/C (4th Floor)

Wednesday
Oct. 3

Thursday, October 4

8:30 to 10:00 a.m.

CE8 – USING AND APPLYING CWA

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Laura Militello, U. of Dayton Research Inst.;

Cochair: Richard T. Stone, U. at Buffalo-SUNY

1. Claire Davies, Catherine M. Burns, and Shane D. Pinder, U. of Waterloo, **Testing a Novel Auditory Interface Display to Enable Visually Impaired Travelers to Use Sonar Mobility Devices Effectively**
2. Huei-Yen Chen, U. of Waterloo; Tabbeus M. Lamoureux, Humansystems Inc.; Catherine M. Burns, U. of Waterloo, **Work Domain Analysis for the Interface Design of a Sonobuoy System**
3. Ryan M. Kilgore, Charles River Analytics, **Formalizing Display Development in Ecological Interface Design: The Form Comparison Matrix**
4. Tabbeus M. Lamoureux and Jessica Sartori, Humansystems Inc., **Two Methods for Control Task Analysis**
5. Jason Laberge, Nicholas J. Ward, Michael Rakauskas, and Janet Creaser, U. of Minnesota, **A Comparison of Work Domain and Task Analysis for Identifying Information Requirements: A Case Study of Rural Intersection Decision Support Systems**

FPI – FORENSICS PROFESSIONAL

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Kent A/B/C (4th Floor)

Forensics Professional

Chair: Marc L. Resnick, Florida International U.

1. Kenneth Nemire, HFE Consulting, **Case Study: The Wrong Mental Model Can Kill You**
2. Ilene B. Zackowitz and Alison G. Vredenburgh, Vredenburgh & Assoc., Inc., **When Communication Failure Contributes to an Injury: A Case Study of Para-Transportation for Wheelchair Users**
3. Marc L. Resnick, Florida International U., **Training to Proficiency: Reality v. the Courtroom**
4. Soyun Kim, Jennifer A. Cowley, and Michael S. Wogalter, North Carolina State U., **Emphasis Terms for Warning Directives on Compliance Intent**

5. Rudolf Mortimer, Consultant, **Effectiveness of a Warning as Measured by Behavior Change**

GS4 – ERGONOMICS PROFESSIONALISM: A PANEL DISCUSSION

Discussion Panel

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon I/II (3rd Floor)

General Sessions

Chair: Valerie J. Rice, U.S. Army Research Lab;

Cochair: Jerry R. Duncan, Deere & Co. Moline Technology

Panelists: Barry H. Beith, HumanCentric Technologies; Hal W. Hendrick, Hendrick & Assoc.; Andrew S. Imada, A. S. Imada & Assoc.; Y. Ian Noy, Liberty Mutual Research Inst. for Safety, Standards, R&D; Wendy A. Rogers, Georgia Tech

HC5 – COLLABORATION, COMMUNICATION, AND TASK SUPPORT IN MEDICAL CONTEXTS

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon IX/X (3rd Floor)

Health Care

Chair: Stephanie Guerlain, U. of Virginia; *Cochair:* F. Jacob Seagull, U. of Maryland

1. Emily S. Patterson, Sharon Schweikhart, and Shilo Anders, Ohio State U.; Suzanne M. Brungs and Marta L. Render, VA Inpatient Evaluation Ctr., **Toward a Functional Model of Quality Improvement Collaboratives**
2. Sarah Henrickson, Thomas Suther, and Douglas A. Wiegmann, Mayo Clinic, **Developing a Pre-operative Briefing Protocol for Cardiovascular Surgery**
3. Stuart Marshall, Bayside Health; Anne Miller, U. of Queensland; Yan Xiao, U. of Maryland, **Development of Team Coordination and Performance Measures in a Trauma Setting**
4. Dan Morrow, Liza Raquel, Angela Schriver, Seth Redenbo, and David Rozovski, U. of Illinois Inst. of Aviation, **External Support for Collaborative Medication Planning by Patients and Providers**
5. F. Jacob Seagull and Danny Ho, U. of Maryland; James Radcliffe, R. Adams Cowley Shock Trauma Ctr.; Yan Xiao, Peter Hu, and Colin Mackenzie, U. of Maryland, **Just-in-Time Training for Medical Emergencies: Computer Versus Paper Checklists for a Tracheal Intubation Task**

IE4 – MANUAL MATERIAL HANDLING ACTIVITIES

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon III/IV (3rd Floor)

Industrial Ergonomics

Chair: Maury A. Nussbaum, Virginia Tech; *Cochair:*

Riley E. Splittstoesser, Ohio State U.

1. William S. Marras, Sue A. Ferguson, Deborah Burr, and Pete Schabo, Ohio State U., **Low-Back Pain Recurrence at Work**
2. Devender Singh, U. of Cincinnati, **Obesity Effects on Maximum Acceptable Weights of Lift**
3. Zongliang Jiang and Gary A. Mirka, North Carolina State U., **Application of an Entropy-Assisted Optimization Model in Prediction of Agonist and Antagonist Muscle Forces**
4. Suzanne G. Hoffman, Matthew P. Reed, and Don B. Chaffin, U. of Michigan, **The Relationship Between Hand Force Direction and Posture During Two-Handed Pushing Tasks**
5. William S. Marras, Greg Knapik, and Josue Gabriel, Ohio State U., **A Biomechanical Analysis of Push and Pull Induced Spine Loads**

PP3 – PERCEPTION THEORY AND PRACTICE

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Perception & Performance

Chair: Jocelyn M. Keillor, Defence Research and

Development Canada–Toronto; *Cochair:* Harvey S.

Smallman, Pacific Science and Engineering Group

1. Patricia R. DeLucia, Texas Tech U., **A Multi-dimensional Model of Space Perception: Theoretical and Practical Implications**
2. Harvey S. Smallman, Maia B. Cook, and Daniel I. Manes, Pacific Science & Engineering Group; Michael B. Cowen, Space and Naval Warfare Systems Ctr., **Naive Realism in Terrain Appreciation**
3. Jocelyn M. Keillor, Kevin Trinh, and Justin G. Hollands, Defence Research and Development Canada–Toronto; Michael Perlin, CMC Electronics, **Effects of Transitioning Between Perspective-Rendered Views**
4. Sarah D. Chiller-Glaus, Adrian Schwaninger, and Franziska Hofer, U. of Zurich, **Identity Verification From Photographs in Travel Documents: The Role of Display Duration and Orientation on Performance**
5. Tammy E. Ott and Patricia R. DeLucia, Texas Tech U., **Attention Can Influence the Aperture Illusion: Theoretical and Practical Implications**

PD2 – PRODUCT POTPOURRI

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Laurel C/D (4th Floor)

Product Design

Chair: Jean Schiller, Tenor Design LLC; *Cochair:*

Melissa Jacobson, 56seven8 design

1. Christopher R. Moe and Alan Hedge, Cornell U., **Effects of a Vibrating Mouse on Computer Users' Work Behaviors and Performance**
2. Scarlett R. Herring, Adriana Trejo, and M. Susan Hallbeck, U. of Nebraska–Lincoln, **Comparison of Four Cursor Control Devices for Development of a Powered Laparoscopic Surgery Tool – Users' Opinions**
3. Pamela Castillejos and M. Susan Hallbeck, U. of Nebraska–Lincoln, **Evaluation of a Hand-Held Neutron Detector for Usability, Design, and Comfort**
4. William J. Tharion, Mark J. Buller, Anthony J. Karis, and Stephen P. Mullen, U.S. Army Research Inst. of Environmental Medicine, **Acceptability of a Wearable Vital-Sign Detection System**
5. Christina C. Mendat, HumanCentric Technologies; Christopher B. Mayhorn, North Carolina State U., **An Evaluation of Self-Checkout Systems**
6. Peter Vink, TNO; Rosa Porcar-Seder, Inst. de Biomecánica de Valencia, **Office Chairs Are Often Not Adjusted by End-Users**

TE1 – HUMAN-SYSTEM PERFORMANCE TEST AND EVALUATION

Lecture

Thursday, October 4, 2007, 8:30 to 10:00 a.m.

Essex A/B/C (4th Floor)

Test & Evaluation

Chair: James Pharmed, Naval Air Command; *Cochair:*

Jennifer Foil, Northrop Grumman Ship Systems

1. David Crone, Defence Science and Technology Organisation; Penelope M. Sanderson, U. of Queensland; Neelam Naikar, Defence Science and Technology Organisation, **Studying Complex Human-System Behavior: Human-in-the-Loop Simulation Requirements**
2. Tim Joganich, Larry Sicher, Kristen Nicholson, and Gary Whitman, ARCCA; Craig Nichols and Frank Butch, Global Seating Systems LLC, **Human Factors Evaluation of Restraint Systems for Military Vehicles**
3. Karla E. Allan, U.S. Army Soldier Research, Development, and Engineering Ctr., **Evaluating Tactility and Dexterity for Military Aviation Protective Gloves**

Thursday
Oct. 4

4. Alvah C. Bittner, Bittner & Assoc.; Keith Lile, Ergonomics Solutions, Inc.; Rachel C. L. Bittner, U. of Washington; Yoshihide Sakuragi, Pacific Lotus Trading, **Intraindividual Ergonomics (I²E): Performance Effects of Ultra-Negative-Ion Water**
5. Pamela A. Savage-Knepshield, U.S. Army Research Lab, **Usability Testing for Rapid Fielding With Small Ns: Lessons Learned During an Army Operational Field Experiment**

2. Miranda G. Capra, HumanCentric Technologies, **Comparing Usability Problem Identification and Description by Practitioners and Students**
3. Carolyn M. Sommerich and Sahika Korkmaz, Ohio State U., **Exposure to Ubiquitous Mobile Instructional Technology in a High School Setting: An Observational Study**
4. Jacob B. Solomon and Frank A. Drews, U. of Utah, **Digital Photo Kiosk Evaluation**
5. Robert Pastel, Jacob Champlin, Matthew Harper, Nathan Paul, and William S. Helton, Michigan Technological U.; Martin Schedlbauer and Jesse Heines, U. of Massachusetts, Lowell, **The Difficulty of Remotely Negotiating Corners**

Thursday, October 4 10:30 a.m. to 12:00 noon

CE9 – INTELLIGENCE ANALYSIS

Lecture

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Olivier St-Cyr, Atomic Energy of Canada Ltd.;

Cochair: Ryan M. Kilgore, Charles River Analytics

1. Maia B. Cook and Harvey S. Smallman, Pacific Science and Engineering Group, **Visual Evidence Landscapes: Reducing Bias in Collaborative Intelligence Analysis**
2. Stoney Trent, U.S. Military Academy; Martin Voshell and Emily S. Patterson, Ohio State U., **Team Cognition in Intelligence Analysis**
3. Phillip J. Ayoub, Irene J. Petrick, and Michael D. McNeese, Penn State U., **Weather Systems: A New Metaphor for Intelligence Analysis**
4. Daniel J. Zelik, Emily S. Patterson, and David D. Woods, Ohio State U., **Judging Sufficiency: How Professional Intelligence Analysts Assess Analytical Rigor**
5. Shilo Anders, Daniel J. Zelik, Timothy Jacoby, Emily S. Patterson, and David D. Woods, Ohio State U., **Exploring Challenges of Information Dynamics Using an Animock**

CS3 – USABILITY

Lecture

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon VII/VIII (3rd Floor)

Computer Systems

Chair: Terence S. Andre, U.S. Air Force Academy

1. Pallavi Dharwada, Honeywell; Joel Greenstein, Anand Gramopadhye, and Steve J. Davis, Clemson U., **A Case Study on Use of Personas in Design and Development of an Audit Management System**

DEMI – DEMONSTRATIONS

Demonstrations

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon V (3rd Floor)

Special Sessions

Chair: David Gertman, Idaho National Lab; *Cochair:*

A. Eve Miller, U. of Utah

1. Jon Holbrook, Emily M. Stelzer, Adam Darowski, Zachary Horn, Rebecca A. Grier, Emily Wiese, and Michael Paley, Aptima, Inc.; Edward Martin, U.S. Air Force Research Lab, **Demonstration of Training and Process Support Capabilities for Bridging the Gap Between Systems Engineering and Cognitive Engineering**
2. Gavan Lintern, General Dynamics, **An Interactive Planning Prototype for Task Force Air Defense**
3. Rebecca A. Grier and John Colonna-Romano, Aptima, Inc.; Gabriel Spitz, LiveData, Inc.; Jared T. Freeman, Aptima, Inc., **UPDATE: A Usability Analysis Method and Tool**
4. Mark W. Scerbo, Lee A. Belfore, and Hector Garcia, Old Dominion U.; Leonard J. Weireter, Eastern Virginia Medical School; Michael W. Jackson, Amber Nalu, Emre Baydogan, and James P. Bliss, and Jennifer Seevinck, Old Dominion U., **A Virtual Operating Room for Context-Relevant Training**

HC6 – UNDERSTANDING AND DESIGNING THE MEDICATION PROCESS

Lecture

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon IX/X (3rd Floor)

Health Care

Chair: Douglas A. Wiegmann, Mayo Clinic; *Cochair:* Sarah E. Henrickson, Mayo Clinic

1. Kevin J. Buffardi and Agnieszka Bojko, User Centric, Inc.; Edmond Israelski, Abbott Labs, **Tachistoscopic Study on the Impact of Net**

Quantity and Dosage Strength Proximity on Dosage Strength Recognition in Prescription Drug Labels

2. Jennifer Jeon, U. of Waterloo; Sylvia Hyland, Inst. for Safe Medication Practices Canada; Catherine M. Burns, U. of Waterloo; Kathryn Momtahan, The Ottawa Hospital, **Challenges With Applying FMEA to the Process for Reading Labels on Injectable Drug Containers**
3. Jennie J. Gallimore, Wright State U.; Peter K. Wong, Mercy Health Partners, **Implementation of Electronic Systems for Prescribing and Delivering Medication in Hospitals: Issues in Real Practice**
4. Samuel J. Alper and Richard J. Holden, U. of Wisconsin-Madison; Matthew C. Scanlon, Children's Hospital of Wisconsin; Raini Kaushal, Weill Medical College; Theresa M. Shalaby, Vanderbilt Children's Hospital; Ben-Tzion Karsh, U. of Wisconsin-Madison, **Using the Technology Acceptance Model to Predict Violations in the Medication Use Process**
5. Merrick F. Kossack and Andrew W. Gellatly, Baxter Healthcare Corp., **The What and How of Medical Device Design Validation: A Human Factors Methodology**

HP2 – THE NEXT GENERATION OF COGNITIVE MODELING TOOLS: OPPORTUNITIES, CHALLENGES, AND BASIC NEEDS

Discussion Panel

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon
Kent A/B/C (4th Floor)

Human Performance Modeling

Chair: Michael L. Bernard, Sandia National Labs;
Cochair: J. Chris Forsythe, Sandia National Labs
Panelists: Laurel Allender, U.S. Army Research Lab;
Joseph Cohn, Naval Research Lab; Gabriel Radvansky, U. of Notre Dame; Frank Ritter, Pennsylvania State U.

ME2 – MACROERGONOMIC APPROACHES TO MANAGEMENT OF INFORMATION ACROSS ORGANIZATIONS

Lecture

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon
Essex A/B/C (4th Floor)

Macroergonomics

Chair: Delia Grenville, Intel Corp.; *Cochair:* Michelle M. Robertson, Liberty Mutual Research Inst. for Safety

1. Christian Korunka and Elisabeth Dudak, U. of Vienna; Martina Molnar, Human Ware Consulting; Peter Hoonakker, U. of Wisconsin-Madison, **Organizational Predictors of a Successful**

Implementation of an Ergonomic Training Program

2. Karen Jacobs and Kathryn Runge, Boston U., **Middle School Students' Notebook Computer Use**
3. Mark S. Hoffman and Charles Cash, NCR Corp., **Understanding Impacts of Technology, Process Changes, and Organizational Controls to Improve the Cost of Cash in Retail Stores**
4. Holly Snow, Christina Gammon, and Francisco Moro, U. of Windsor, **Implementing Information Technology in a Health Care Clinic in the Caribbean**
5. Ralph C. Palmer III, Purdue U., **Assessing Information Alignment in Production Organizations**

PD3 – POINTING DEVICES – BIOMECHANICS, DESIGNS, AND ALTERNATIVES: AN UPDATE FOR 2007

Discussion Panel

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon
Laurel C/D (4th Floor)

Product Design

Chair: Steven M. Belz, AT&T Labs

Panelists: Zack Koutsandreas, Ergoworks Consulting, LLC; Dan Odell, Microsoft Corp.; Marjorie Werrell, Ergoworks

S2 – AN INTERNATIONAL PERSPECTIVE ON RISK COMMUNICATION: ADAPTING TO SAFETY DEMANDS IN THE EMERGING GLOBAL ECONOMY

Discussion Panel

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon
Grand Ballroom Salon I/II (3rd Floor)

Safety

Chair: Michael J. Kalsher, Rensselaer Polytechnic Inst.;
Cochair: Freija van Duijne, Food and Consumer Product Safety Authority, Netherlands

Panelists: Shelley Waters Deppa, Safety Behavior Analysis, Inc.; Freija van Duijne, Food and Consumer Product Safety Authority, Netherlands; Claudia Mont'Alvão, Pontifícia Universidade Católica, Brazil; Hanna-Andrea Rother, School of Public Health and Family Medicine, South Africa; Alison G. Vredenburgh, Vredenburgh & Assoc., Inc.

Thursday
Oct. 4

SF4 – STUDENT RESEARCH ON COGNITIVE AROUSAL AND TRUST IN AUTOMATION

Lecture

Thursday, October 4, 2007, 10:30 a.m. to 12:00 noon
Grand Ballroom Salon III/IV (3rd Floor)
Student Forum; cosponsored by Cognitive Engineering & Decision Making

Chair: Anthony Costello, SA Technologies; *Cochair:* Alexander Trofimovsky, George Mason U.

1. Aaron A. Pepe, Valerie K. Sims, and Matthew G. Chin, U. of Central Florida, **Applying the Appraisal Theory of Emotion to Human-Agent Interaction**
2. Kimberly R. Raddatz and Abigail Werth, Kansas State U.; Tuan Tran, Idaho National Labs, **The Influence of Emotional State and Pictorial Cues on Perceptual Judgments**
3. Jennifer M. Ross, James L. Szalma, and Peter A. Hancock, U. of Central Florida, **Empirical Examination of Trust in Automation Across Multiple Agents in a Search-and-Rescue Operation**
4. Bart D. Wilkison, Arthur D. Fisk, and Wendy A. Rogers, Georgia Tech, **Effects of Mental Model Quality on Collaborative System Performance**
5. Andrew Mayer and Julie Blaskiewicz Boron, Georgia Tech; Colin Kress, Oglethorpe U.; Arthur D. Fisk and Wendy A. Rogers, Georgia Tech, **Caution! Warning Effectiveness May Be More Obfuscated Than It Appears: Making Sense of the Warning Literature**

Thursday, October 4 12:00 noon to 1:30 p.m.

Technical Group Business Meeting

Individual Differences

12:00 noon to 1:30 p.m. (lunch)
Chasseur (3rd Floor)

Thursday, October 4 1:30 to 3:00 p.m.

AS2 – SAFETY AND TRAINING

Lecture

Thursday, October 4, 2007, 1:30 to 3:00 p.m.
Kent A/B/C (4th Floor)
Aerospace Systems

Chair: Sherry Chappell, SA Technologies; *Cochair:* Ashley Nunes, Charles River Analytics

1. Jamie L. Estock, Amy A. Alexander, Emily M. Stelzer, and Kathryn Baughman, Aptima, Inc., **Impact of Visual Scene Field of View on F-16 Pilot Performance**
2. Susan M. Stevens, Timothy E. Goldsmith, Peder Johnson, and John Moulton, U. of New Mexico, **Performance Differences on Rejected Takeoffs as a Function of Expectancy**
3. Kristie Nemeth and Laurie Quill, U. of Dayton Research Inst.; Robert Fudge, Kelley's Logistics Support Systems; Justin Adams, U.S. Air Force Research Lab, **Job-Aiding and Training Tool Evaluation**
4. Scott A. Shappell, Clemson U.; Douglas A. Wiegmann, Mayo Clinic, **Developing a Methodology for Assessing Safety Programs Targeting Human Error in Aviation**
5. Colin G. Drury, Kimberley Ghyin, Rajan Batta, and Li Lin, U. at Buffalo-SUNY, **Temporal Effects in a Security Inspection Task: Break-down of Performance Components**

CE10 – UNDERSTANDING COGNITIVE WORK

Lecture

Thursday, October 4, 2007, 1:30 to 3:00 p.m.
Dover A/B/C (3rd Floor)
Cognitive Engineering & Decision Making

Chair: Douglas Gillan, New Mexico State U.; *Cochair:* Poornima Madhavan, Carnegie Mellon U.

1. Robert R. Hoffman, Inst. for Human and Machine Cognition; David W. Eccles, Florida State U.; Paul J. Feltovich, Inst. for Human and Machine Cognition, **The Cost of Knowledge Recovery: A Challenge for the Application of Concept Mapping**
2. Melissa B. Denihan, Naval Air Warfare Ctr., **Decision Making in Naval Aviation: Contextual Factors Influencing Cue and Factor Saliency**
3. Karen Feigh and Amy R. Pritchett, Georgia Tech, **Modeling Work for Cognitive Work Support System Design in Operational Control Centers**

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4. Danny Ho and Yan Xiao, U. of Maryland School of Medicine; Ayse Gurses, U. of Minnesota; Vinay Vaidya, Marcelo Cardarelli, Dyana Conway, Jamie Tumulty, and Shari Simone, U. of Maryland Medical Ctr.; Peter Hu and Jason Cervenka, U. of Maryland School of Medicine, **Artifacts Use in Safety-Critical Information Transfer: A Preliminary Study of the Information Arena**
5. Justin Grossman, David D. Woods, and Emily S. Patterson, Ohio State U., **Supporting the Cognitive Work of Information Analysis and Synthesis: A Study of the Military Intelligence Domain**

E2 – DESIGN SPECIFICATIONS FOR A COGNITIVE ENGINEERING TEXTBOOK

Discussion Panel

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Laurel C/D (4th Floor)

Education; cosponsored by Cognitive Engineering & Decision Making

Chair: Alex Kirlik, U. of Illinois at Urbana-Champaign;

Cochair: Sharolyn A. Lane, North Carolina State U.

Panelists: Ann M. Bisantz, U. at Buffalo-SUNY;

Catherine M. Burns, U. of Waterloo; Nancy J. Cooke,

Arizona State U.; Stephanie Guerlain, U. of Virginia;

John D. Lee, U. of Iowa; Nadine B. Sarter, U. of

Michigan; Daniel Serfaty, Aptima, Inc.

GS5 – SERIOUS GAMES: TAKING EDUCATION AND TRAINING TO THE NEXT LEVEL

Discussion Panel

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Grand Ballroom Salon I/II (3rd Floor)

General Sessions; cosponsored by Internet, Virtual Environments, Cognitive Engineering & Decision Making, and Computer Systems

Chair: Diglio A. Simoni, RTI International; *Cochair:*

Katherine Del Giudice, U. of Central Florida

Panelists: Katherine Del Giudice, U. of Central Florida;

Richard Boyd, 3Dsolve Inc.; Robert Hubal, RTI Inter-

national; Jerry Heneghan, Virtual Heroes, Inc.; Michael

Lewis, U. of Pittsburgh; Geb Thomas, U. of Iowa

HC7 – BEYOND SEE-ONE, DO-ONE, TEACH-ONE: APPLYING HF TO CLINICAL TRAINING AND EDUCATION

Discussion Panel

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Grand Ballroom Salon IX/X (3rd Floor)

Health Care

Chair: Klaus Christoffersen, Dartmouth Medical

School; *Cochair:* Anne Miller, Vanderbilt U.

Panelists: George Blike, Dartmouth-Hitchcock Medical

Ctr.; Caroline G. L. Cao, Tufts U.; Stephanie Guerlain,

U. of Virginia; Colin Mackenzie, U. of Maryland School

of Medicine; Emily S. Patterson, Ohio State U.;

F. Jacob Seagull, U. of Maryland School of Medicine

IES – ERGONOMIC SENSOR DEVELOPMENT AND MEASUREMENT

Lecture

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Grand Ballroom Salon III/IV (3rd Floor)

Industrial Ergonomics

Chair: Michael Jorgensen, Wichita State U.; *Cochair:*

Angela DiDomenico, Liberty Mutual Research Inst.

for Safety

1. Brandon J. Miller and Fadi A. Fathallah, U. of California, Davis, **Body-Fixed Orientation Sensors for Trunk Motion Sensing**
2. Susan Kotowski, U. of Cincinnati; Rob Parkinson, U. of Waterloo; Kermit Davis, U. of Cincinnati; Jack Callaghan, U. of Waterloo, **Taking an Acceleration Approach to Identifying Vertebral Endplate Failures**
3. Sue A. Ferguson, William S. Marras, Steven A. Lavender, Riley E. Splittstoesser, Gang Yang, and Pete Schabo, Ohio State U., **Differences Between Lifting and Lowering Manual Material Handling Tasks in Distribution Centers**
4. Curt Irwin and Robert Radwin, U. of Wisconsin-Madison, **A Novel Dynamometer for Describing Force Vectors in the Long Fingers During Grip**
5. David Rodrick, Florida State U., **Chaotic Dynamics of Surface EMG During Dynamic Lifting Tasks Between Experienced and Inexperienced Material Handlers**

Thursday
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PP4 – AUDITORY, VISUAL, AND HAPTIC CUEING

Lecture

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Grand Ballroom VII/VIII (3rd Floor)

Perception & Performance

Chair: W. Todd Nelson, Air Force Research Lab;

Cochair: Misty Gripper, Wright State U.

1. Michael E. LaFiandra and William Harper, U.S. Army Research Lab, **A Comparison of Soldier Performance on a Target Detection and Identification Task Using Fused Sensor Technology and Current Night Vision Technology**
2. Peter I. Terrence, Justin F. Morgan, and Richard D. Gilson, U. of Central Florida, **Dynamic Frequencies and Perceptual Binding in a Combined Auditory-Tactile Task**
3. Brian Simpson and Douglas S. Brungart, U.S. Air Force Research Lab; Ronald Dallman, General Dynamics; Richard Yasky, NASA Langley Research Ctr.; Griffin Romigh, U.S. Air Force Research Lab; John Raquet, U.S. Air Force Inst. of Technology, **In-Flight Navigation Using Head-Coupled and Aircraft-Coupled Spatial Audio Cues**
4. Randall D. Spain, James P. Bliss, and Elizabeth T. Newlin, Old Dominion U., **The Effect of Sonification Pulse Rate on Perceived Urgency and Response Behaviors**
5. Robert H. Gilkey, Wright State U.; Brian Simpson and Douglas S. Brungart, Wright-Patterson AFB; Jeffery L. Cowgill, Wright State U.; Adrienne J. Ephrem, Wright-Patterson AFB, **3-D Audio Display for Pararescue Jumpers**

POS3 – POSTER SESSION 3

Poster Session

Thursday, October 4, 2007, 1:30 to 3:00 p.m.

Grand Ballroom Salon VI (3rd Floor)

Posters

Chair: Jessica Ray, U. of Central Florida; *Cochair:* Aksi Kakar, Virginia Tech

Posters are 90 minutes only; presenters are required to be present throughout the session.

Biomechanics/Physiology

1. Hiroshi Udo, Hiroshima Bunkyo Women's U.; Akihiro Udo, Ben Branlund, and Akiko Udo, Udoergo Inst.; Motoyasu Ochi and Shunji Imai, Hiroshima Prefectural Agriculture Research Ctr.; Noritune Yokoyama, Kohji Hashimoto, Hitoshi Okano, and Kohji Nakamura, Eastern Hiroshima Prefecture Industrial Research Inst., **Study of the Load on the Hand and Fingers of Mandarin Pickers, the 1st Report – Investigation of**

Three Types of Shears and Their Effect on the Workload on the Hand and Fingers

2. Na Jin Seo, Thomas J. Armstrong, and Kathryn L. Dannecker, U. of Michigan, **The Effect of Simultaneous Grip on Wrist Flexion/Extension Strength**
3. Angela DiDomenico, Krystyna Gielo-Perczak, Raymond W. McGorry, and Chien-Chi Chang, Liberty Mutual Research Inst. for Safety, **Limitations of Postural Stability Ratings**
4. Heather C. Lum, Kimberly A. Smith-Jentsch, Valerie K. Sims, and Michael Flood, U. of Central Florida, **Vocal Analysis and Heart Rate as Measures of Assertiveness and Aggression**
5. Richard T. Stone, U. at Buffalo-SUNY, **The Biomechanical and Physiological Link Between Archery Techniques and Performance**
6. Donald Goddard, U.S. Army Ctr. for Health Promotion & Preventive Medicine, **Mitigating Mechanical Exposures During Pregnancy**
7. Ronald R. Mourant and Prasanna Rengarajan, Northeastern U.; Daniel Cox, U. of Virginia; Beverly Jaeger and Yingzi Lin, Northeastern U., **The Effect of Driving Environments on Simulator Sickness**
8. Dyani J. Saxby, Gerald Matthews, Edward M. Hitchcock, and Joel S. Warm, U. of Cincinnati, **Development of Active and Passive Fatigue Manipulations Using a Driving Simulator**

Decision Making/Errors

9. Wayne Gregory, ProActive Ergonomics; Jan Berkhout, U. of South Dakota, **Reduction in Tree-Stand Assembly Errors With Modified Instructions**
10. Kyle M. Bailey, C. Melody Carswell, and Rusty Grant, U. of Kentucky, **Geospatial Perspective-Taking: How Well Do Decision Makers Choose Their Views?**
11. Roger Serwy and Esa M. Rantanen, U. of Illinois at Urbana-Champaign, **Evaluation of a Software Implementation of the Cognitive Reliability and Error Analysis Method (CREAM)**
12. Gulshan R. Chand and Ishita Desai, Clemson U.; Pallavi Dharwada, Honeywell; Lisa B. Bosman and Anand Gramopadhye, Clemson U., **Effect of Cost Value Structure Associated With Uncertainty on Human Inspection Performance**
13. Robert Rousseau, Informatique WGZ; Sebastien Tremblay and Daniel Lafond, U. Laval; François Vachon, Cardiff U.; Richard Breton, Defence Research and Development Canada-Valcartier, **Assessing Temporal Support for Dynamic Decision Making in Command and Control**
14. Ernesto A. Bustamante, Brittany L. Anderson, Amy R. Thompson, James P. Bliss, and Mark W. Scerbo, Old Dominion U., **Robustness of the**

a b **Signal Detection Theory Model of Decision Making**

15. Mustapha Mouloua, U. of Central Florida; J. Christopher Brill, Michigan Technological U.; Edwin C. Shirkey, U. of Central Florida, **Gender Differences and Aggressive Driving Behavior: A Factor-Analytic Study**

Health Care

16. Karim C. Boustany and Barrett S. Caldwell, Purdue U., **Dimensions of Information and Resource Flow in Health Care Systems**
17. William J. Vigilante, Robson Forensic, Inc.; Christopher B. Mayhorn and Michael S. Wogalter, North Carolina State U., **Direct-to-Consumer (DTC) Prescription Drug Advertising on Television and Online Purchases of Medications**
18. Patricia R. DeLucia, Kerstan S. Mork, Tammy E. Ott, Eston T. Betts, Nushin S. Niroumand, and Meredith L. Slaughter, Texas Tech U., **Measurement of the Relationship Between Patient Wait Time and Patient Satisfaction at Each Stage of an Appointment**
19. Cindy H. Lio, C. Melody Carswell, W. Brent Seales, Duncan Clarke, Yitzchak Kurs, and Jessica DeCuir, U. of Kentucky, **Using Global Implicit Measurement Strategies to Assess Situation Awareness During the Training of Laparoscopic Surgical Skills**

SDI – OPERATIONAL APPLICATIONS

Lecture

Thursday, October 4, 2007, 1:30 to 3:00 p.m.
Essex A/B/C (4th Floor)
System Development

Chair: Jay Shively, U.S. Army

1. David E. Kancler, U. of Dayton Research Inst.; Christopher C. Curtis, U.S. Air Force Research Lab; Darryl S. Stimson and Johnnie Jernigan, NCI Information Systems, Inc., **Field Testing the AMIT Job Performance Aid: Methods, Results, and Implications for the Air Force Maintenance Community**
2. Diane K. Mitchell and Charneta L. Samms, U.S. Army Research Lab, **Please Don't Abuse the Models: The Use of Experimental Design in Model Building**
3. Lisa Rehak and Tabbeus M. Lamoureux, Humansystems Inc.; Jerzy Jarmasz, Defence Research and Development Canada–Toronto; Jeff Bos, Humansystems Inc., **Systems Thinking and Archetypes in the Military: Postulating a New Archetype**
4. Marc Grootjen, Royal Netherlands Navy; Mark Neerinx, TNO; Machiel Marckelbach, Royal Netherlands Navy, **Dynamic Task Load Sched-**

uling for Platform Control and Navigation on a Naval Ship

5. Barry W. Tillman, Lockheed Martin; Dane Russo, Lynn Pickett, Ken Stroud, Janis Connolly, and Tico T. Foley, NASA Johnson Space Ctr., **NASA Space Flight Human System Standards**

Thursday, October 4
3:15 to 4:30 p.m.

Technical Group Business Meeting

Virtual Environments

3:15 to 4:30 p.m.
Grand Ballroom IX/X (3rd Floor)

Thursday, October 4
3:30 to 5:00 p.m.

AS3 – AIR TRAFFIC CONTROL

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.
Kent A/B/C (4th Floor)
Aerospace Systems

Chair: Carol A. Manning, Federal Aviation Admin.;
Cochair: Sehchang Hah, Federal Aviation Admin.

1. Brian Hilburn, Ctr. for Human Performance Research, **Cognitive Task Analysis of Future Air Traffic Control Concepts: The TCAS Downlink Scenario**
2. Ronish Joyekurun, Paola Amaldi, and William Wong, Middlesex U., **A Functional Collaborative Work Unit for Analyzing Hazardous Flight Approaches**
3. Steven J. Landry, Purdue U.; Kerry Levin and Dennis Rowe, MITRE Corp.; Monicarol Nickelson, Federal Aviation Admin., **Creating Effective Collaboration Tools: Lessons From the Multicenter Traffic Management Adviser**
4. Lynne Martin, Naviscent; Savita A. Verma, San Jose State U. Foundation; Debbi Ballinger, NASA Ames Research Ctr.; Victor Cheng, Optimal Synthesis, Inc., **Developing a Decision Support Interface for Surface Domain Air Traffic Controllers**
5. John W. Ruffner, SI-International, Inc; Jim E. Fulbrook, DCS Corp., **Usability Considerations for a Tower Controller Near-Eye Augmented Reality Display**

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CE11 – WORKING WITH SPATIAL KNOWLEDGE

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Jennifer Ockerman, Applied Physics Lab;

Cochair: Karen Feigh, Georgia Tech

1. James Nixon, Sarah Sharples, and Michael W. Jackson, U. of Nottingham, **Presenting Spatial Information on a Mobile Device: Differences in Workload and Performance**
2. Kathleen A. McGarry and Peter Moertl, MITRE/CAASD, **The Effects of Direct Pilot Warnings on the Prevention of Runway Incursions**
3. Craig S. Miller, DePaul U.; Sven Fuchs, Design Interactive, Inc.; Niranchana S. Anantharaman and Priti Kulkarni, DePaul U., **Comparing Two Methods for Predicting Navigation Problems in Information Hierarchies**
4. Erik Troberg, New Mexico State U.; Douglas Gillan, North Carolina State U., **Measuring Spatial Knowledge: Effects of the Relation Between Acquisition and Testing**
5. Farnaz Akhavi and Caroline C. Hayes, U. of Minnesota, **Decision Making in Engineering Design Tasks: Do Designers Benefit From Representations of Uncertainty?**

CE12 – INFLUENCING HOW PEOPLE WORK

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon I/II (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Danny Ho, U. of Maryland

1. Priyadarshini R. Pennathur and Ann M. Bisantz, U. at Buffalo-SUNY; Rollin J. (Terry) Fairbanks, U. of Rochester; Shawna J. Perry, U. of Florida, Jacksonville; Frank Zwemer, U. of Rochester; Robert L. Wears, U. of Florida, Jacksonville, **Assessing the Impact of Computerization on Work Practice: Information Technology in Emergency Departments**
2. Jamie C. Gorman, Cognitive Engineering Research Inst.; Nancy J. Cooke and Polemia G. Amazeen, Arizona State U.; Jennifer L. Winner, Arizona State U. Polytechnic; Jasmine L. Duran, Cognitive Engineering Research Inst.; Harry K. Pedersen, New Mexico State U.; Amanda R. Taylor, Cognitive Engineering Research Inst., **Knowledge Training Versus Process Training: The Effects of Training Protocol on Team Coordination and Performance**
3. Olivier St-Cyr, Atomic Energy of Canada Ltd., **Strategy Selection and Compliance: A Case**

Study Using a Thermal-Hydraulic Process Microworld

4. Poornima Madhavan, Cleotilde Gonzalez, and Frank Lacson, Carnegie Mellon U., **Differential Base Rate Training Influences Detection of Novel Targets in a Complex Visual Inspection Task**
5. Lora B. Martin, Lisa Rehak, and Tabbeus M. Lamoureux, Humansystems Inc.; David Bryant, Defence Research and Development Canada; Robert Vokac, Wolverine Consulting, **Development and Evaluation of an Intuitive Operations Planning Process for the Canadian Forces**

HC8 – PRACTICAL ISSUES IN MEDICAL HUMAN FACTORS: MANAGING THE DETAILS AND METHODS

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon IX/X (3rd Floor)

Health Care

Chair: Sandra K. Garrett, Purdue U.

1. Richard J. Holden and Samuel J. Alper, U. of Wisconsin-Madison; Kamisha H. Escoto, U. of Minnesota; Rainu Kaushal, Cornell U.; Kathleen Murkowski, Children's Hospital of Wisconsin; Neal R. Patel, Vanderbilt Children's Hospital; Matthew C. Scanlon, Medical College of Wisconsin; Ben-Tzion Karsh, U. of Wisconsin-Madison, **Nursing Workload and Its Effect on Patient and Employee Safety**
2. Noa Segall, Jeffrey M. Taekman, Jonathan B. Mark, Gene Hobbs, and Melanie C. Wright, Duke U. Medical Ctr., **Coding and Visualizing Eye-Tracking Data in Simulated Anesthesia Care**
3. Penelope M. Sanderson and Marcus O. Watson, U. of Queensland; W. John Russell, Royal Adelaide Hospital; David Liu, U. of Queensland; Simon Jenkins, Royal Adelaide Hospital; Phil Cole, U. of Queensland; Norris Green, Princess Alexandra Hospital, **Summative Evaluation With a Full-Scale Patient Simulator: Challenges and Adaptations**
4. Leo Gugerty, Clemson U.; Dorrit Billman, Peter Pirolli, and Ame Elliott, Palo Alto Research Ctr., **An Exploratory Study of the Effect of Domain Knowledge on Internet Search Behavior: The Case of Diabetes**
5. Agnieszka Bojko and Melinda McElheny, User Centric, Inc.; Petra Kaars-Wiele and Edmond Israelski, Abbott Labs, **Effect of Shortened Abbott Architect Reagent Package Inserts on Performance and Satisfaction of Lab Technicians**

HP3 – EXPLORING COGNITION AND PERFORMANCE THROUGH MODELING

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Laurel C/D (4th Floor)

Human Performance Modeling

Chair: Vincent Duffy, Purdue U.; *Cochair:* Gwendolyn E. Campbell, Naval Air Warfare Ctr.

1. Sang-Hwan Kim, David B. Kaber, and Carlene Perry, North Carolina State U., **Computational GOMS Modeling Toward Understanding Cognitive Strategy in Dual-Task Performance With Automation**
2. Guoxi Zhang, Purdue U.; Robert Feyen, U. of Minnesota-Duluth, **A Queueing Network Model of Task Prioritization Using a General Hierarchy of Prioritization Rules**
3. Daniel N. Cassenti, U.S. Army Research Lab, **ACT-R Model of EEG Latency Data**
4. Jessica Mock, U. of Central Florida, **Stress, Fatigue, and Workload: Determining the Combined Effect on Human Performance**
5. Jennifer E. Tsai, U. of Illinois at Urbana-Champaign; Michael D. Byrne, Rice U., **Evaluating Systematic Error Predictions in a Routine Procedural Task**

IE6 – PRACTICAL APPLICATION OF ERGONOMICS

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon III/IV (3rd Floor)

Industrial Ergonomics

Chair: Sue A. Ferguson, Ohio State U.; *Cochair:* Susan Kotowski, U. of Cincinnati

1. August Kwitowski and Joseph DuCarme, U.S. Dept. of Health and Human Services, **Human Motion Analysis of Roof Bolting Postures Involving Boom Swing**
2. Lu Yuan, Bryan Buchholz, Laura Punnett, and David Kriebel, U. of Massachusetts, Lowell, **Estimation of Muscle Contraction Forces and Joint Reaction Forces at the Low Back and Shoulder During Drywall Installation**
3. D. Christian Grieshaber, Illinois State U.; Michael H. Lau and Thomas J. Armstrong, U. of Michigan, **Subjective Self-Ratings of Perceived Difficulty During Obstructed Manual Hose Insertion Tasks**
4. Nathan B. Fethke, Fred Gerr, Daniel C. Anton, Joseph E. Cavanaugh, and Thomas M. Cook, U. of Iowa, **Cross-Sectional Study of Upper Trapezius Muscle Activity and Self-Reported Neck/Shoulder Pain**

ME3 – THE NEED FOR SYSTEM SOLUTIONS TO IMPROVE EMPLOYMENT OUTCOMES OF CANCER SURVIVORS

Discussion Panel

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Essex A/B/C (4th Floor)

Macroergonomics; cosponsored by Health Care

Chair: Mary E. Sesto, U. of Wisconsin; *Cochair:* Michael Feuerstein, Uniformed Services U. of the Health Sciences

Panelists: K. Robin Yabroff, National Cancer Inst.; Cathy J. Bradley, Virginia Commonwealth U.; Michael Feuerstein, Uniformed Services U. of the Health Sciences; Gregg C. Vanderheiden, U. of Wisconsin

ST2 – IN-VEHICLE DRIVER DISTRACTION

Lecture

Thursday, October 4, 2007, 3:30 to 5:00 p.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Surface Transportation

Chair: Srinivas Raghavan, Qualcomm Inc.

1. Duncan P. Brumby, Dario D. Salvucci, and Walt Mankowski, Drexel U.; Andrew Howes, U. of Manchester, **A Cognitive Constraint Model of the Effects of Portable Music-Player Use on Driver Performance**
2. Joel M. Cooper and David L. Strayer, U. of Utah, **Do Driving Impairments From Concurrent Cell Phone Use Diminish With Practice?**
3. Changxu Wu, U. of Michigan Transportation Research Inst.; Omer Tsimhoni and Yili Liu, U. of Michigan, **Development of an Adaptive Workload Management System Using the Queueing Network Model Human Processor**
4. Louis Tijerina and Dev Kochhar, Ford Motor Co., **A Measurement Systems Analysis of Total Shutter Open Time (TSOT) as a Distraction Metric for Visual-Manual Tasks**

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Friday, October 5
8:30 a.m. to 1:30 p.m.

SS3 - MOCK TRIAL: ROLE OF HUMAN FACTORS IN LITIGATION INVOLVING AUTOMATED EXTERNAL DEFIBRILLATORS (AEDs)

Alternative Format

Friday, October 5, 2007, 8:30 a.m. to 1:30 p.m.

Grand Ballroom III/IV (3rd Floor)

Special Sessions; cosponsored by Health Care, Forensics Professional

Chair: Caroline G. L. Cao, Tufts U.; *Cochair:* Michael J. Kalsher, Rensselaer Polytechnic Inst.

Participants: Matthew B. Weinger, Vanderbilt U. Medical Ctr.; Alison G. Vredenburg, Vredenburg & Assoc. Inc.; Edmond Israelski, Abbott; Gregg Spyridon, Spyridon, Koch, Palermo PLLC; Doug Yoshida, Ogden, Murphy, Wallace PLLC; Rich McLeod, McLeod & Heinrichs PLLC; Rollin J. (Terry) Fairbanks, U. of Rochester; Marc L. Resnick, Florida International U.; Peter Carstensen, U.S. Food and Drug Admin.; Christopher P. Nemeth, U. of Chicago

Friday, October 5
8:30 to 10:00 a.m.

CE13 - MACROCOGNITION METRICS: MEANINGFUL MEASURES FOR COMPLEX PROCESSES

Discussion Panel

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Eduardo Salas, U. of Central Florida; *Cochair:* Stephen M. Fiore, U. of Central Florida

Panelists: Michael Letsky, Office of Naval Research; Gary Klein, Klein Assoc. Div. of ARA; Robert R. Hoffman, Inst. for Human and Machine Cognition; Nancy J. Cooke, Arizona State U.; Shawn Burke, U. of Central Florida; Emily S. Patterson, Ohio State U.

ED1 - WORKSPACE PERCEPTIONS, WORKSPACE DESIGN, AND SEATING

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Essex A/B/C (4th Floor)

Environmental Design

Chair: Nancy L. Larson, 3M Co.; *Cochair:* Courtney R. Sherman, DEGW

1. Thomas J. Smith, U. of Minnesota; Steven J. Orfield, Orfield Labs, Inc., **Occupancy Quality Predictors of Office Worker Perceptions of Job Productivity**
2. Erin Lawler and Alan Hedge, Cornell U., **Effects of a Dynamic Seat Pan on Torso Movement, Back Comfort, and Task Performance**
3. Alan Hedge and Katherine M. Boothroyd, Cornell U., **Effects of a Flat-Panel Monitor Arm on Comfort, Posture, and Preference in an Architectural Practice**
4. Nancy L. Larson, 3M Co.; Courtney R. Sherman, DEGW, **Session Conclusion**

GS6 - HUMAN FACTORS IN COMPLEX OPERATIONAL ENVIRONMENTS

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon I/II (3rd Floor)

General Sessions

Chair: Paul Picciano, Aptima, Inc.; *Cochair:* Arathi Sethumadhavan, SA Technologies

1. William S. Helton, Shane Begoske, Robert Pastel, and Jindong Tan, Michigan Technological U., **A Case Study in Canine-Human Factors: A Remote Scent Sampler for Landmine Detection**
2. Juliane Domeinski, Ruth Wagner, Markus Schoebel, and Dietrich Manzey, U. of Technology Berlin, **Human Redundancy in Automation Monitoring: Effects of Social Loafing and Social Compensation**
3. Brian Stanton and Mary Theofanos, NIST; Shahram Orandi, Mitretek Systems; Ross Micheals and Nien-Fan Zhang, NIST, **Effects of Scanner Height on Fingerprint Capture**
4. Mary Theofanos, Brian Stanton, and Ross Micheals, NIST; Shahram Orandi, Mitretek Systems; Nien-Fan Zhang, NIST, **Ten-Print Fingerprint Capture: Effect of Instructional Modes on User Performance**
5. Colin G. Drury, Clara V. Marin, Rajan Batta, and Li Lin, U. at Buffalo-SUNY, **Human Factors Contributes to Queuing Theory: Parkinson's Law and Security Screening**

PP5 – HAPTICS CONTROL AND IMAGERY

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Grand Ballroom Salon VII/VIII (3rd Floor)

Perception & Performance

Chair: Paul Havig, U.S. Air Force Research Lab;

Cochair: Sehchang Hah, Federal Aviation Admin.

1. Bin Zheng, Legacy Health System; Christine L. MacKenzie, Simon Fraser U., **Kinematics of Reaching and Grasping With a Tool**
2. Bin Zheng, Legacy Health System; Christine L. MacKenzie, Simon Fraser U., **The Control Strategy for Degrees of Freedom in Remote Prehension With a Tool**
3. A. Eve Miller and David L. Strayer, U. of Utah; Julie Marble, Sentient Corp., **Neurotechnology for Imagery Analysis**
4. Sarah Miller, and Wai-Tat Fu, U. of Illinois at Urbana-Champaign, **The Role of Temporal Sequence Learning in Guiding Visual Attention Allocation**
5. Julio C. Mateo, Robert H. Gilkey, and Jeffrey Cowgill, Wright State U., **Effect of Variable Visual-Feedback Delay on Movement Time**

PD4 – INFORMATION AND INSTRUCTIONS IN PRODUCT DESIGN

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Laurel C/D (4th Floor)

Product Design

Chair: M. Susan Hallbeck, U. of Nebraska-Lincoln;

Cochair: Elizabeth Mauer, HumanCentric

Technologies

1. Elaine C. Wisniewski, Judith J. Isaacson, and Steven M. Hall, Applied Safety and Ergonomics, Inc., **Comprehension Testing of Product Safety Symbols: Lessons Learned**
2. Cortney V. Martin, Virginia Tech, **Toward More Usable Pictorial Assembly Instructions for Children**
3. Gavin Huntley-Fenner, Erin Harley, Doris Trachtman, and Doug Young, Exponent, **ANSI Z535.6 and Conspicuity: A Test of the New State-of-the-Art Format for Instructions**
4. Colleen Serafin and Rebecca Paskaramoorthy, Visteon Corp., **Redesigning a Small-Car Segment Vehicle Interior: A Case Study Focusing on Driver Information**
5. Leslie McFarlin, Kevin J. Buffardi, and Robert Schumacher, User Centric, Inc., **Usability Impact on Effectiveness of Parental Controls**

S3 – CONSTRUCTION AND INDUSTRY SAFETY

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Grand Ballroom IX/X (3rd Floor)

Safety

Chair: Wen-Chin Li, National Defense U., ROC;

Cochair: Margaret Wan, Kaiser Permanente

1. Robert Molloy, National Transportation Safety Board, **Supervisory Control and Data Acquisition in Hazardous Liquid Pipeline Control Rooms**
2. Anthony P. Ciavarella, Naval Postgraduate School, **Assessing Safety Climate and Organizational Risk**
3. Stephen J. Reinach, Foster-Miller, Inc.; Steven Fadden, Landmark College; Frederick C. Gamst, U. of Wyoming; Sarah A. Acton, SA Technologies, **The Use of HEART to Assess the Risk of Remote Control Locomotive Operations: A Tale of Two Cities**
4. John R. Bartels, Dean H. Ambrose, and Sean Gallagher, National Inst. for Occupational Safety and Health, **Effect of Operator Position on the Incidence of Continuous Mining Machine/Worker Collisions**
5. Jeff A. Lancaster, Khaled Alali, and John G. Casali, Virginia Tech, **Interaction of Vehicle Speed and Auditory Detection of Backup Alarms, AKA: Can the Construction Worker Get Out of the Way?**

T2 – TRAINING POTPOURRI

Lecture

Friday, October 5, 2007, 8:30 to 10:00 a.m.

Kent A/B/C (4th Floor)

Training

Chair: Michelle Harper-Sciarini, U. of Central Florida

1. Carl F. Smith, George Mason U., **Using Displays to Improve Training: Functional Aviation Displays Improve Novice Piloting Knowledge**
2. Allyson R. Hall, Keith Jones, Patricia R. DeLucia, and Brian R. Johnson, Texas Tech U., **Does Metric Feedback Hinder Actions Guided by Cognition?**
3. Joseph R. Keebler, Michelle Harper-Sciarini, Michael Curtis, David Schuster, Meredith Bell-Carroll, and Florian Jentsch, U. of Central Florida, **Effects of 2-Dimensional and 3-Dimensional Media Exposure Training in a Tank Recognition Task**
4. Jamyne M. Hickman, Wendy A. Rogers, and Arthur D. Fisk, Georgia Tech, **Deciphering Optimality: A Framework Toward Understanding Optimal Technology Training for Older Adults**

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10:30 a.m. to 12:00 noon

A2 – AGING AND ERGONOMIC DESIGN

Lecture

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon

Kent A/B/C (4th Floor)

Aging

Chair: Timothy P. Rhoades, Applied Sciences; *Cochair:* Diana Schwerha, Ohio U.

1. Steven F. Wiker and Viviana Baggio, West Virginia U., **Pre-Exertion Perceptions of Musculoskeletal Overexertion Injury Risk: An Assessment of Age, Gender, Anthropometric, and Lifting Task Factors**
2. Kelly Caine, Arthur D. Fisk, and Wendy A. Rogers, Georgia Tech, **Designing Privacy-Conscious Aware Homes for Older Adults**
3. Stephen L. Young, J. Paul Frantz, Raina J. Shah, Timothy P. Rhoades, and Julia K. Diebol, Applied Safety and Ergonomics, Inc., **Perceptions and Use of Product-Related Age Recommendations: A Case Study Involving ATVs**
4. Wen Shi and Thurmon E. Lockhart, Virginia Tech, **Investigating the Dynamic Accommodative Characteristics of the Aging Eye With the Control of the Intensity and Chromaticity of Light**
5. Hongbo Zhang and Maury A. Nussbaum, Virginia Tech, **Identification of Aging Effects on the Control of Upright Stance Using a Local Maximum Wavelift Transform Method**
6. James F. Kravitz, San Jose State U., **Of Mice and Pen: Effects of Input Device on Different Age Groups Performing Goal-Oriented Tasks**

CE14 – ALL ABOUT COMMUNICATING

Lecture

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon

Dover A/B/C (3rd Floor)

Cognitive Engineering & Decision Making

Chair: Ellen Bass, U. of Virginia; *Cochair:* Changxu Wu, U. at Buffalo-SUNY

1. Jamie C. Gorman, Cognitive Engineering Research Inst.; Shawn Weil, Aptima, Inc.; Nancy J. Cooke, Arizona State U.; Jasmine L. Duran, Cognitive Engineering Research Inst., **Automatic Assessment of Situation Awareness From Electronic Mail Communication: Analysis of the Enron Dataset**

2. Jamie C. Gorman, Cognitive Engineering Research Inst.; Nancy J. Cooke, Arizona State U.; Norman W. Warner and Elizabeth M. Wroblewski, Naval Air Systems Command, **Tagging Macrocognitive Processes Using Communication Flow Patterns**
3. Susan G. Hutchins, Alex Bordetsky, Tony Kendall, and Maura Garrity, Naval Postgraduate School, **Evaluating a Model of Team Collaboration Via Analysis of Team Communications**
4. Philip J. Smith and Amy L. Spencer, Ohio State U., **Supporting Asynchronous Dialogs in the Communication of Army Operations Orders**
5. Geva Vashitz, Ben-Gurion U. of the Negev, **Four Responses to Warning Systems: A Case Study of Clinical Reminders**

GS7 – THE REAL DEAL: ESSENTIAL LESSONS FROM HUMAN FACTORS LEADERS

Discussion Panel

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon

Grand Ballroom Salon I/II (3rd Floor)

General Sessions

Chair: Christopher P. Nemeth, U. of Chicago; *Cochair:* David D. Woods, Ohio State U.

Panelists: Peter A. Hancock, U. of Central Florida; Richard Pew, BNN Technologies; Emilie M. Roth, Roth Cognitive Engineering; Thomas Sheridan, Massachusetts Inst. of Technology; David D. Woods, Ohio State U.

PD5 – MISCELLANEA: METHODS, TOOLS, AESTHETICS, AND EVALUATIONS

Lecture

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon

Laurel C/D (4th Floor)

Product Design

Chair: Pat Patterson, Texas Tech U.; *Cochair:* Edie Adams, Microsoft Corp.

1. Roberto K. Champney and Kay M. Stanney, Design Interactive, Inc., **Using Emotions in Usability**
2. Asim A. Ozok and Anita Komlodi, U. of Maryland Baltimore County, **Do Looks Really Matter? The Effect of 3-Dimensional Product Representations on Customers' Buying Decision in Electronic Commerce**
3. Erik Pedersen, Kevin J. Buffardi, and Heather Olson, User Centric, Inc., **A Visual and Interactive Method for Collecting Subjective Comparative Data in Usability Studies**
4. David Jones, Roberto K. Champney, Par Axelsson, and Kelly S. Hale, Design Interactive, Inc., **Augmenting the Traditional Approach to Usability:**

Three Tools to Bring the User Back Into the Process

5. Vetrivel Ganeswaran, Scarlett R. Herring, Wei-Hua Ge, Pamela Castellejos, and Ram R. Bishu, U. of Nebraska-Lincoln, **Ergonomic Evaluation of Writing Instruments**

S4 – SAFETY POTPOURRI

Lecture

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon
Grand Ballroom Salon IX/X (3rd Floor)

Safety

Chair: Yvonne Alvarez, George Mason U.; *Cochair:* Cindy LaRue, Error Analysis

1. Wen-Chin Li, National Defence U.; Don Harris, Cranfield U., **From Latent Failure to Active Failure: The Investigation of Human Errors in Aviation Operation**
2. Bruce G. Coury and Deborah Bruce, National Transportation Safety Board, **Pitfalls in Evaluating Aviation Accident Risk**
3. Cynthia M. Rando, MEI Technologies; Laura E. Duvall, Lockheed Martin; Devanshi Patel, NASA Johnson Space Ctr., **Use of Cautions and Warnings Within International Space Station Procedures: When Too Much Information Becomes Risky**
4. Bryan A. Campbell, Jennifer A. Cowley, Christopher B. Mayhorn, and Michael S. Wogalter, North Carolina State U., **Response Time and Decision Accuracy for “No Turn on Red” Signs**
5. Cheryl MacKenzie, Donald Holmstrom, and Mark Kaszniak, U.S. Chemical Safety & Hazard Investigation Board, **Human Factors Analysis of the BP Texas City Refinery Explosion**

ST3 – DRIVER SAFETY POTPOURRI

Lecture

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon
Grand Ballroom VII/VIII (3rd Floor)

Surface Transportation

Chair: Christopher A. Monk, George Mason U.

1. Michelle Yeh and Jordan Multer, U.S. Dept. of Transportation Volpe Ctr., **Applying a Sociotechnical Framework for Improving Safety at Highway-Railroad Grade Crossings**
2. Kerstan S. Mork and Patricia R. DeLucia, Texas Tech U., **Visual Information in Judgments of Head-On Collisions**
3. Shan Bao and Linda Ng Boyle, U. of Iowa, **Visual Search Strategies of Older Drivers at Rural Expressway Intersections**

4. Stacy A. Balk, Justin S. Graving, Ryan G. Chanko, and Richard Tyrrell, Clemson U., **Effects of Retroreflector Placement on the Nighttime Conspicuity of Pedestrians: An Open-Road Study**

SD2 – INSERTING BEHAVIORAL SCIENCE EXPERTISE EARLY IN ACQUISITION: CHALLENGES AND OPPORTUNITIES FOR HUMAN FACTORS

Discussion Panel

Friday, October 5, 2007, 10:30 a.m. to 12:00 noon
Essex A/B/C (4th Floor)

System Development

Chair: John J. Burns, NAVAIR Training Systems Div.

Panelists: Anthony Tvaryanas, U.S. Air Force; Jerry Gordon, AAI Corp.; Gavan Lintern, General Dynamics; Kelly Neville, Embry-Riddle Aeronautical U.; James Gualtieri, ManTech

**Friday, October 5
12:15 to 1:30 p.m.**

PL2 – CLOSING PLENARY SESSION: HUMAN FACTORS AND ERGONOMICS ISSUES IN A RADIOLOGY READING ENVIRONMENT

Plenary

Friday, October 5, 12:15 to 1:30 p.m.
Grand Ballroom Salon V (3rd Floor)

Chair: Barrett S. Caldwell, Purdue U.

Plenary Speaker: Khan M. Siddiqui, Chief, Imaging Informatics and Cardiac CT/MR Imaging, VA Maryland Health Care System

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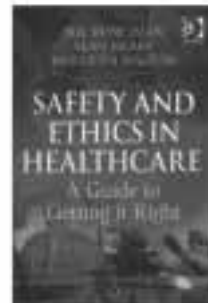
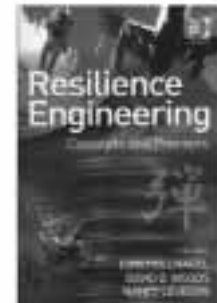
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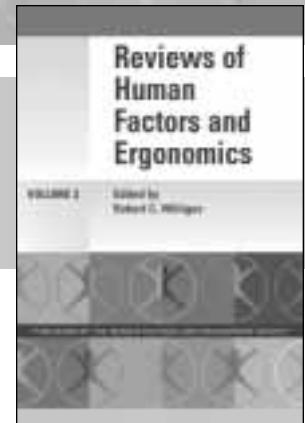
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