

Midyear Symposium March 7-8th, 2002
*Contemporary & Emerging Issues
in Human Factors, Engineering and Military Psychology*

Sponsored by American Psychological Association's

Division 21: Applied Experimental and Engineering Psychology

Division 19: Military Psychology, and

Potomac Chapter, Human Factors & Ergonomics Society

Symposium Location: Officers Club, Fort Belvoir, Virginia

Program Agenda as of 3 March

- **APA Div. 21 Exec. Committee mtg. 8 AM – 11:15AM, Thursday March 7th at O'Club**
- **Symposium: Noon Thursday March 7th till 5:30 PM Friday March 8th**
- ***Potomac Chapter HFES Dinner Meeting w/ speaker March 7th 6:30 PM***

Thursday March 7th

**07:30 - 8:00 Continental Breakfast, Belvoir Room,
Ft. Belvoir, VA Officers Club**

**08:00 – 11:15 APA Div. 21 Executive
Committee Meeting, Belvoir Room**

**09:30 – 11:00 MURI Steering Committee
mtg in Belvoir Room, 2nd Floor O'Club**

1100 - 1200 On-site registration. O'Club.

(Lunch available at 2 restaurants)

**1100- 1200 Set up posters; complete poster
preparations at the refreshment break at 1430 hrs.**

12:00 Noon: Symposium Begins

Introductory Remarks

Gerald P. Krueger (President of Div. 21);
Jane M. Arabian (President of Div. 19) &
John W, Ruffner (President of Potomac Chapter of
HFES.)

**1220 - 1430 Optimizing Cognitive
Readiness Under Stress**

***Multidisciplinary University Res. Initiative (MURI):
Optimizing Cognitive Readiness Under Combat
Conditions***

Peter A. Hancock, University of Central Florida

Viking: Development of an Infantry Scenario Multi-task Environment

Wayne C. Harris University of Minnesota, Raja Parasuraman, Marla Zinni, Catholic University of America, Peter A. Hancock, UCF, & Scott C. Harris, USARL-HRED, Picatinny Arsenal, NJ

Sensor to Shooter: Task Development & Empirical Evaluation of Effects of Automation Unreliability

Ericka Rovira, Catholic University of America, Faculty Sponsor: Raja Parasuraman

The Influence of Stress and Individual Differences on Subjective Time

Jeanne L. Weaver, Valerie K. Sims, H.C. Neil Ganey, Peter A. Hancock, Krystal Bradley, & Mustapha Mouloua, University of Central Florida

Training and Performance Outcome: Advanced Technologies, Realistic Graphics, and Increased Stimulation may not be Contributors

Christina S. Morris, Ronald W. Tarr, Ed C. Shirkey, Peter A. Hancock, & Mustapha Mouloua, University of Central Florida

Thursday 1430 – 1445 Refreshment Break Complete Poster Preparations

1445 – 1600 MURI etc. continued: Teams

Training and Design to Enhance Adaptability in Military Teams

Jennifer Fowlkes, C. Shawn Burke, Katherine Wilson, Laura Milham, Maureen Bergondy & Eduardo Salas, University of Central Florida

Challenges and Considerations in Development of a Team-Based Testbed to Examine the Impact of Stress on Cognitive Readiness and Team Performance

Clint A. Bowers, Kia Asberg, C. Shawn Burke, & Eduardo Salas, University of Central Florida

The Impact of Stress on Team Adaptability Within Military Forces

C. Shawn Burke, Laura M. Milham, Eduardo Salas, Clint A. Bowers, & Jennifer Fowlkes, University of Central Florida

1600 – 1700 Night Vision Systems

Contemporary & Emerging Technologies for Night Vision Training

John W. Ruffner & James E. Fulbrook, DCS Corporation, Alexandria, VA

Video on Technical Advancements in the Night Battlefield

Glen Nowak, Program Executive Office / Project Manager (PEO/PM) Soldier Systems, Ft. Belvoir, VA

1715 – 1830 Poster Presentations by University Grad Students & Cadets of US Military Academy (USMA) West Point, NY

POSTERS 1715-1830 hrs (Belvoir Room):

P1. Sound Localization Using the Land Warrior System Earpiece: The Effect of Physiological Arousal on Comprehension

Angela F. McConnell & Shimul S. Patel, USMA, Dept of Behavioral Sciences & Leadership (BSL) Faculty Sponsor: COL Larry Shattuck

P2. Understanding Target Detection Performance

David C. Cibik & Erich W. Meyerhoff, USMA, Dept BSL, Faculty Sponsor: COL L. Shattuck

P3. Physiology & Cognition: Evaluation of the Physiological Effects of Cognitive Tasks

Michael Block & Stacey Cotner, USMA, Dept. BSL, Faculty Sponsor: COL Larry Shattuck

P4. Multitasking Effects on Comprehension of Battlefield Communications Radio Traffic

Mark D. Juntunen & Simon A. Boyd, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Matthews

P5. Effects of Mode of Presentation on Text Comprehension

Jennie M. Hattmann & Michelle N. Kracht, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Matthews

P6. *The Effects of Voice-Picture Desynchronization on Message Comprehension*

Miguel A. Martinez & John D. Selby, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Matthews

P7. *An Evaluation of the Practicality of Personal Digital Assistants*

Joseph F. Mitek & Kelly J. Schachtler, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Matthews

P8. *Land Warrior Monocle: Dominant vs. Non-Dominant Eye Use in Task Performance*

Dennis D. Scott & Kevin Smith, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Matthews

P9. *User preferences for two Individual Combat-Load Systems: MOLLE vs LCE*

Chris P. Trombetta & Ian J. Vargas, USMA, Dept. BSL, Faculty Sponsor: Dr. Mike Mathews

P10. *Allometry and a Specific Task (175-lb bench press) Create a Fair Upper Body Muscular Strength-Endurance Test for USMA Male Cadets*

Chris Johnson, USMA, Faculty Advisors: Todd A. Crowder, Ph.D. Dept. Phys. Education & LTC Steve Horton, Dept. of Math Sciences

P11. *Does a 70-lb Bench Press Create a Fair Muscular Strength-Endurance Test for USMA Female Cadets? A mathematical Perspective*

Jessica Chapman, USMA, Faculty Advisors: Todd A. Crowder Dept of Phys. Education & LTC Steve Horton, Dept of Math Sciences

P12 *Checklist Performance on the Commercial Flightdeck*

Melanie Diez, George Mason University, Faculty Advisors: Deborah A. Boehm-Davis & Robert W. Holt

P13 *Information & Decision Uncertainty: Effects of Unreliable Automaton on Multi-task Performance & Workload*

Ericka M. Rovira & Marla Zinni, Catholic University of America, Faculty Sponsor: Raja Parasuraman

P14 *An Ordering of Secondary Task Display Attributes*

Christa M. Chewar & Ali Ndiwalana, Virginia Tech, Faculty Sponsors: D. Scott McCrickard & Chris North

P15 *Visual Search for Two Identical Targets: The Role of Ecological Validity*

Derek D. Diaz, University of Central Florida, Faculty Sponsors: Valerie K. Sims, Peter A. Hancock

P16. *The Effect of Time Stress on Mission Performance in a Virtual Combat Mission*

Adams Greenwood-Ericksen, & H.C.Neil Ganey, UCF, Faculty Sponsors: Jeanne L. Weaver, Peter A. Hancock & Mustapha Mouloua

P17. *Reducing Driver Error to Enhance Transportation Safety and Efficiency*

Krystal A. Bradley & Jennifer E. Thropp, UCF, Faculty Sponsors: Jeanne L. Weaver, Peter A. Hancock & Mustapha Mouloua

1830 – 1900 Potomac Chapter HFES' Cocktail Hour, Cash Bar, O'Club Yorktown Room

1830-1900 Yorktown Room: US Army Night Vision Labs: Night Vision Image Intensification (I2) Night Vision view across the Potomac at night, by Glen Nowak, PEO/PM Soldier Systems

1900 – 2215 HFES Dinner Meeting, Yorktown Room

Dinner Speaker: M. Joseph Moyer, Federal Highway Administration (FHWA), McClean, VA. : Mission & Research Initiatives of FHwy in the Department of Transportation (DOT)

Friday March 8th, 2002

0730 – 0800 Continental Breakfast Belvoir Room

0800 – 0930 Physical and Physiological Effects on Performance

Time Course of Cognitive Performance After Ascent to 4300 Meters

Louis E. Banderet, Robert L. Kane, & Stephen R. Muza, USA Research Institute of Environmental Medicine, Natick, MA

Changes in Salivary Amylase and Self-reported Fatigue across Three Increasingly Intense Bouts of Exercise

Ava J. Walker, Wayne C. Harris, Arthur S. Leon, Univ. of Minnesota & Peter A. Hancock, UCF

Salivary Amylase as a Marker of Increasing Physiological Stress During a 5-mile Treadmill Road March

Ava J. Walker, H.L. Bolgren, K.G. Nichols, Arthur S. Leon & Peter A. Hancock

The Effect of Physical Workload on Cognitive Performance

Wayne C. Harris, Ava J. Walker, & Arthur S. Leon, Univ. of Minnesota, & Peter A. Hancock, UCF

0930 – 1000 Demonstration of Army's Land Warrior Infantry System

Mark Hanna, Gerald P. Krueger & SFC Stewart, USA PEO/PM-Soldier Systems, Fort Belvoir, VA

1000 – 1015 Break

1015-1200 Human Factors Potpourri

Evaluation of the Effectiveness of GoArmy.com

Daniel L. Berryhill, Harry Geiseeler, Brian N. Stone, & Eric M. Wigley, USMA, Dept. BSL, Faculty Advisor: COL Larry Shattuck

Synchronized and De-synchronized Video Communications: Factors Affecting User Comprehension

Joshua G. Morino, Erika Reiner, Christina Canelli, & Anna Feliz, USMA, Dept. BSL, West Point, NY; Faculty Advisor: COL Larry Shattuck

Video Versus Written Manual Instructions: An Evaluation of Multi-Modal Job Training

Huck Finn & Laura Schroeder, USMA, Dept. BSL, Faculty Advisor: COL Larry Shattuck

Intelligent Warfighter-Robotic Interface Design: Challenges and Objectives in Human-Robot Integration

Mary L. Lozano & Louise E. Borrelli, Raytheon Co. Falls Church, VA

1200 – 1315 Lunch on your own.

Fabulous buffet 2nd floor; or cafeteria style downstairs in O'Club (PLEASE BE BACK FOR AWARDS)

1315-1330 APA Div. 19 Military Psychology Award Ceremony for Best Student Presentation or Poster– Dr. Jane Arabian

1330 – 1455 Operator Issues & Human Factors Potpourri

What Constitutes an Effective Decision Aid? The Rapid Ops Prototype

Gerald L. Harbour, Heather L. Hunting, & Susan G. Hill, Idaho National Engineering & Environmental Laboratory

Job Analysis and Cognitive Task Analysis of Air Traffic Controllers

Rosemarie Reynolds, University of South Florida & Kelly Neville, CHI Systems, Orlando

Making Touch Screen Control Effective

Maureen B. Scully, Raytheon Co. C3I Systems, Falls Church, VA

Issues in Support of Higher Operator to Unmanned Vehicle Ratios Using Dynamic Task Allocation

Regan H. Campbell, Applied Systems Intelligence, Inc. (ASI), Roswell, GA

1455- Refreshments provided in-place

1500 – 1700 Cognitive Human Factors Issues

Evaluations of HMD Ownship Status Symbology for Maintaining Situation Awareness

Paul R. Havig, Joseph C. Jenkins, Eric E. Geiselman, & Eric L. Heft, US Air Force Research Laboratory, WPAFB, Ohio

Social Background Characteristics and Performance of West Point Cadets

Ariel A. Jones, Timothy S. Allison-Aipa, & Paul T. Bartone, Dept. BSL, USMA, West Point, NY

Web-based Learning Exercise for Army Training

James Belanich, Kara L. Orvis, & Robert A. Wisher, US Army Research Institute, Alexandria, VA & George Mason University, Fairfax, VA

Symposium Registration Information:

Advance Registration (prior to Feb. 15th)

Day 1 (March 7 th)	\$25.00
Day 2 (March 8 th)	\$30.00
<u>Both Days:</u>	\$50.00

On-Site Registration on March 7th

Day 1 (March 7 th)	\$30.00
Day 2 (March 8 th)	\$50.00
<u>Both Days</u>	\$75.00

Students receive 50% off Advance or On-Site registration fees

Make checks out to: APA Division 21

Mail checks to Richard Kelly at:

Richard T. Kelly, Ph.D.
Pacific Science & Engineering Group, Inc.
6310 Greenwich Drive, Suite #200
San Diego, CA 92122

For more information contact:

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Email: rtkelly@pacific-science.com

Email: JerryKrueg@aol.com

Email: gerald.krueger@peosoldier.nvl.army.mil

Potomac Chapter of HFES Dinner Meeting Thursday evening March 7th requires a separate **RSVP reservation for dinner**, and a statement of your menu choice for the dinner. **RSVP Contact** is Don Weitzman at email: Don.CTR.Weitzman@FAA.GOV or phone: (202) 385-7792.

Symposium Housing: For gov't employees on travel orders, Ft. Belvoir bachelor officers quarters (BOQ) are available (range \$44. to \$60.) Reservations: (800) 295-9750, (703) 805-2333; DSN: 655-2333. Rooms in Bldg 80-81 are across the street from the O'Club. Billeting office is located off 18th Street and Belvoir Road.

Other suggested housing at **Holiday Inn Express**, Springfield, VA; (703) 644-5555; Our symposium block of rooms reserved at gov't rate is \$99. + tax.).

If you prefer a motel closer to Ft. Belvoir, try the **Best Western Mount Vernon**, at 8751 Richmond Highway (Route #1) about one mile North of the Ft. Belvoir main PENCE gate. Phone number is: (703) 360-1300; price is \$82. per night, includes a continental breakfast, but no restaurant in hotel; it looks a little austere compared to others, but clean and secure enough in somewhat less attractive surroundings.

Directions to Fort Belvoir, VA Officers Club: From Reagan National Airport (DCA), drive 12 miles south on Route #1, Richmond Hwy. From Route #1, turn left (East) at the PENCE Gate (South Post); stop to obtain visitors' pass (pre-registered names should be on gate's visitors' list). Follow Belvoir Road to 4th traffic light at 21st Street. Turn left; proceed 100 yards; turn right onto Belvoir Drive. At the fork in the road, bear left onto Woodlawn Drive to Schultz Circle. A free parking area is to the left of the Officers Club Building.