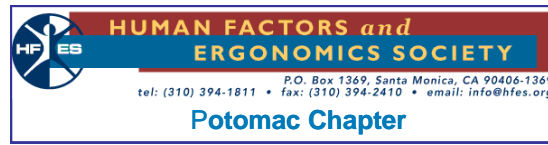




Division 21



2005 APA Div 21/19 & HFES Potomac Chapter Annual Symposium on Applied Experimental Research George Mason University, Fairfax, VA, March 3-4, 2005

PRELIMINARY AGENDA Version 3.0 - 2/15/2005

Thursday, March 3rd

- 0900 – 1130** **APA Division 21 Executive Committee Meeting**
- 1100 – 1200** **On-site Registration**
Mounting of poster presentations
- 1200 – 1210** **Welcome**
Deborah Boehm-Davis, Ph.D., President, APA Division 21
Brad Johnson, Ph.D., President, APA Division 19
Tom Mayfield, CPE, President, HFES Potomac Chapter
- 1210– 1300** **Invited Keynote Address**
Session Chair: Michael D. Matthews, *United States Military Academy*
Cognitive Support: Myths, Mistakes and Models
Gary Klein, Klein Associates
- 1300 – 1430** **HCI, Usability, and Automation**
Session Chair: Deborah A. Boehm-Davis, *George Mason University*
Levels of Automation and User Participation in Usability Testing
Kent L. Norman and Susan Campbell, University of Maryland, College Park, Emanuele Panizzi, Universita di Roma La Sapienza
Adaptive Mental Models: A Validation Study
Gabrielle M. Wood, Adam Royba, Melissa Shuffler, and Stephen Zaccaro, George Mason University
Analysis of Human-Computer Interaction in Response to Flight Management System (FMS) Messages
Lance Sherry, George Mason University, Karl Fennell, United Airlines, Micheal Feary, NASA-ARC, & Peter Polson, University of Colorado
Effects of Flexible and Restricted Control Interfaces on Human-Robot Performance
Peter N. Squire, Ethan Mereish, & Raja Parasuraman, George Mason University
Improving Decision-Making with a Likelihood Alarm Display
Ernesto A. Bustamante, Corey K. Fallon, & James P. Bliss, Old Dominion University
- 1430 – 1445** **Break - Visit Posters**
- 1445 – 1545** **Symposium: New Directions in Army Leader Assessment and Development**
Session Chair: Thomas A Kolditz, *U.S. Military Academy*; Discussant, Steve Zaccaro, *George Mason University*
The Army’s Leader Development Portfolio: Increasing Officer Self-Awareness and Adaptability
Dennis P. O’Neil, James Ness, Thomas A. Kolditz, & Katherine Hauserman, United States Military Academy
West Point Cadets are Superb But Deviant
Michael D. Matthews, Jennifer K. Bailey, & Dennis R. Kelley, United States Military Academy

Impact of a Strong Environment on Cadet Personality Attitudes
Volkmar Dieper, James Ness, Donna Brazil, United States Military Academy, & Philip Lewis, Auburn University

1545 – 1615 Military Psychology Potpourri

Session Chair: Brad Johnson, *United States Naval Academy*

Goal Orientation and Attrition Cognitions: A Person-Organization Fit Perspective

Jennifer K. Lee, Consortium Research Fellows Program, U.S. Army Research Institute, Arlington, VA, & Trueman R. Tremble, U.S. Army Research Institute

Crowd Control Training for Military Officers

C. M. Boone & R. C. Gaskins, Old Dominion University, VMASC

1615 – 1630 Break – Visit Posters

1630 – 1800 Cutting Edge Research from the U.S. Service Academies I

Session Chair, LTC Terence Andre, *United States Air Force Academy*

Detecting the Difference Between the Plan and the Execution: A Comparison of Two Command and Control Displays

Ryan E. Baker & Nathan A. Brown, United States Military Academy

Measuring the Vestibular Time Constant During Off-Axis Rotations

Justin Bandino, Steve Downie, & Brian Self, United States Air Force Academy

Performance Analysis of Expert Pilot Operators Using the Unmanned Aerial Vehicle (UAV) Synthetic Task Environment (STE)

Brent A. Cox, United States Air Force Academy

Comparing the Effectiveness of Synchronous and Asynchronous Collaborative Means in a Military Task

Curt Daniels & Jason Kinsley, United States Military Academy

Driving While Using Night Vision Goggles: Does Training Software Improve Driver Performance?

Andrew Fleagle & Lloyd Osafo, United States Military Academy

1800 – 1830 Poster Session: Meet the Poster Authors

Session Chair: *Tom Mayfield, Evans, Incorporated*

Psychomotor Vigilance and Sleep Deprivation: A Field Study

Avery Barnett and Charn McAllister, United States Military Academy

SAGAT versus GRADE: A Comparison of Situation Awareness Assessment Measures

Amanda Buchholz & Aaron Jackson, United States Military Academy

Human Factors and I/O Psychology in a Comprehensive View of Recent Airline Accidents: An Analysis of Safety Trends in the Aviation Industry

Eugenio L Facci, Michael Curtis, University of Central Florida, Meredith A. Bell, The Boeing Company, & Timothy Smoker, University of Central Florida

The Effects of Individual Bomb Harness on Walking Gait

Jamie L Gjurjevich & Alexis E. Williams, United States Military Academy

The Effect of Organizational Policy Change on Sleep Patterns in Cadets at the US Military Academy

James Q. Grossman & Jennifer K. Jantzi, United States Military Academy

Testing the Effectiveness of Interactive Computer-Based Trainers on Memorization of Assignments in Team Tasks

Brandon M. Kennedy & Seth A. Gulsby, United States Military Academy

The Effects of Sleep Deprivation on Objective and Subjective Measures of Cognitive Performance: A Pilot Study.

Silas G. Martinez & Michael D. Matthews, United States Military Academy, Nita Miller, Naval Postgraduate School

The Influence of Trainee Gaming Experience and Computer Self-Efficacy on Learner Outcomes of Videogame-Based Training Environments

Karin A. Orvis, George Mason University, Kara L. Orvis, Consortium of Universities, D.C. Metro Area, & James Belanich, U.S. Army Research Institute for the Behavioral and Social Sciences

Consensus-Based Standards Versus Traditional Assessment of Hardiness, Transformational Leadership and Career Intent in a West Point Officer Cohort

Joseph Psozka, U.S. Army Research Institute for the Behavioral and Social Science, & Paul Bartone, National Defense University

Applying ACT-R in Military Training

Raj M. Ratwani & Krista L. Langkamer, George Mason University

Out of Which Loop? Performance Problems with Adaptive User Interfaces

Shelly Roberts & Avi Parush, Carleton University

1830 – 1900 HFES Potomac Chapter – Cash Bar Cocktail Hour

1900 – 2030 HFES Potomac Chapter Dinner with Guest Speaker: Denise V. Gobert, PT, Ph.D. Director of Research, Military Amputee Research Program, and Harold Wain, Ph.D., Program Psychologist, Walter Reed Army Medical Center, Washington, DC. “Optimizing Recovery after Traumatic Limb Loss: U.S. Army Amputee Patient Care Program”

Note: Dinner will be pay at the door, with a cash bar. Cost is \$20 for Symposium attendees, \$15 for members of HFES POC, and \$5 for students.

Friday, March 4th

0800 – 0930 Cutting Edge Research at the US Service Academies II

Session Chair: COL Larry Shattuck, *United States Military Academy*

Development of Spatial Disorientation Illusions in the T-41

Daniel Hwang, U.S. Military Academy & Mary Mullally & Brian Self, United States Air Force Academy

Workload Measurement: A Comparison of Objective and Subjective Measures

Samantha Harmon, United States Military Academy

A Comparative Evaluation of the Continuous Subjective Workload Analysis Graph (CSWAG) and the Subjective Workload Assessment Tool (SWAT)

Kimetha Matthews, United States Military Academy

Morningness/Eveningness Preferences and Cadet Performance

Christie DeVany, United States Military Academy

0930 – 0945 Break – Visit Posters

0945 – 1115 Tools and Techniques for Defeating the Threat

Session Chair: Hank Taylor, *University of Illinois at Urbana-Champaign*

Psychology in the Defense Against Terrorism: A Research Agenda

Mark E. Koltko-Rivera, H. C. Neil Ganey, Justin F. Morgan & Peter A. Hancock, University of Central Florida

The Threat Assessment Testing Exercise (TATE)

Mark E. Koltko-Rivera, H. C. Neil Ganey, & Peter A. Hancock, University of Central Florida

The Effects of Secondary Task Demand on the Assessment of Personal Threat

H.C. Neil Ganey, Mark, E. Koltko-Rivera & Peter A. Hancock, University of Central Florida

Meta-analytic Review of the Effects of Temperature on Performance

J.M. Ross, J. L. Szalma, T. Oron-Gilad, & Peter A. Hancock, University of Central Florida

Adaptive Change in the Type of Automation Support Reduces the Cost of Imperfect Decision Aids in a Simulated Battlefield Engagement Task

Kathleen McGarry, Catholic University & Raja Parasuraman, George Mason University

1115 – 1130 Break – Visit Posters

1130 – 1230 Advanced Concepts and Methodologies in Aviation

Session Chair: James L. Szalma, *University of Central Florida*

Incremental Transfer of Training Effectiveness of a Flight Training Device (FTD)

*Henry L. Taylor, Donald A. Talleur, Tom W. Emmanuel, Jr, and Esa M. Rantanen,
University of Illinois at Urbana-Champaign*

Improving Novice Knowledge Using Functional Displays

Carl F. Smith & Deborah A. Boehm-Davis, George Mason University

Cognitive Tunneling, Aircraft-Pilot Coupling Design Issues, and Scenario Interpretation Under Stress: A Revisitation of Relevant Airline Accidents

*Eugenio, L. Facci, University of Central Florida, Michael Curtis, University of Central Florida,
Meredith A. Bell, The Boeing Company, & Timothy Smoker, University of Central Florida*

Weather-Related Decision-Making in Aviation. The Effect of Social Proof, Pluralistic Ignorance and Normalization of Risk on Continue/Divert and Go/No-Go Decisions

*Eugenio, L. Facci, University of Central Florida, Michael Curtis, University of Central Florida,
Meredith A. Bell, The Boeing Company, & Timothy Smoker, University of Central Florida*

1230 – 1315 Lunch Break

1315 – 1445 Advanced Technologies in Applied Experimental Psychology

Session Chair: John Ruffner, *DCS Corporation*

Problems in the Application of Statistics in Applied Experimental Research

Doug Griffith, General Dynamics

Assessing Intent in an Intelligent Advisory: A Survey of the Challenges Facing Intelligence Analysts

Stoney A. Trent, U.S. Army, Ohio State University

Perception of Morphed Objects: Generating Psychophysical Functions for the Evolution of a Shape

*Justin F. Morgan, Tai Orlon-Gilad, Peter A. Hancock, & James Szalma,
University of Central Florida*

Augmented Reality for Dummies: An Emerging Technology for Applied Experimental (and Military) Psychology

John W. Ruffner and Jim E. Fulbrook, DCS Corporation, Marc Foglia, NVIS, Inc.

Measuring the Effectiveness of Augmented Reality

Mark A. Livingston, Naval Research Laboratory

1445 - 1500 Break – Visit Posters

1500– 1630 Human Factors Issues in Military Training and Operations

Session Chair: MAJ James Ness, *United States Air Force Academy*

Individual Soldier Camouflage: What the Sniper's Eye Tells the Sniper's Brain

Timothy R. O'Neill, US Army Defense Consultant, & Guy Crammer, Hyperstealth, Inc.

Eye Movement Focus in the Detection of Camouflage Patterns

*Widmar Roman, United States Military Academy, Brian Lund, Northrop Grumman, James Ness,
United States Military Academy, & Timothy O'Neil, US Army Defense Consultant*

Tactile Guidance for Dismounted Infantry Land Navigation

*Linda R. Elliott, Roger Pettitt, Christian Carstens, Elizabeth Redden, Human Research and
Engineering Directorate/Army Research Laboratory, & Jan van Erp, Maaik Duistermaat, TNO
Human Factors, The Netherlands*

A Multi-Method Approach to the Assessment of Small Unit Leader Adaptability

Stephen, J. Zaccaro, Eric Weiss, Stephen Ruth, & Joe Chiara, George Mason University

Usability Methods for Undergraduate Education and Research

Terence Andre, United States Air Force Academy

1630 – 1645 Division 19 Student Paper Awards Ceremony

1645 – 1700 Concluding Remarks