



Department of Defense Human Factors Engineering Technical Advisory Group (DOD HFE TAG)



Virtual TAG 2020

18 – 19 November

1200-1630 ET / 0900-1330 PT

US Navy Hosted

Held via MS Teams

UNCLASSIFIED

DoD HFE TAG

Origin

The Assistant Secretaries of the Services signed a Memorandum of Understanding in 1976 for coordinating and communicating working level Human Factors Engineering (HFE) research and development among the services and other Government agencies. As a result, the first Department of Defense Human Factors Engineering Technical Group (DoD HFE TAG) convened on August 9–10, 1977 in Fort Washington, Pennsylvania.

Goals

The DoD HFE TAG (TAG) provides a no-cost registration mechanism for the timely exchange of technical information in the development and application of HFE by enhancing the coordination among Government agencies involved in HFE and Human Systems Integration (HSI) technology research, development, and application. The TAG also assists in the preparation and coordination of documents and sponsors in-depth technical interaction, which aids in identifying HFE technical issues, technology gaps and cross service solutions.

Proponent

Dr. James “Ben” Petro, Director, Human Systems Directorate, Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) works closely with TAG Leadership to plan and sustain the TAG.

Scope

The scope of the technical areas addressed by the TAG is broad due to the diversity of the subject matter covered by the HFE discipline. TAG defines HFE as the concepts, data, methodologies and procedures relevant to the development, operation, and maintenance of hardware and software systems. The subject matter subsumes all technologies aimed at understanding and defining the capabilities of human operators and maintainers.

Composition

The TAG is composed of technical representatives from the DoD, National Aeronautics and Space Administration (NASA), Federal Aviation Administration (FAA), Department of Homeland Security (DHS), and the Veterans Health Administration (VHA) with research and development responsibility in human factors and related disciplines. Representatives from organizations with aligned interests and technical experts from allied countries may attend through TAG Member sponsorship. The TAG also includes designated representatives of technical societies or industry associations credentialed through the TAG Technical Society / Industry (TS/I) Group.

VIRTUAL TAG

The 2020 COVID-19 crisis necessitated agility and resilience of typical TAG constructs and processes. Once TAG leadership realized that we could not safely hold an in-person session in 2020, we began to conceptualize a Virtual TAG (VTAG) for the Fall. The main objective of VTAG is to sustain timely opportunities for cross service HFE/HSI practitioners to present current research, analyses, and perspectives with fellow practitioners, international peers and the military workforce in the absence of an in person session.

As a technical community consistently on the forefront of technology and innovation, we appreciate the importance of recency and relevancy when it comes to presenting and publishing HFE work. Therefore, with the endorsement and support of our OUSD(R&E) Proponent, TAG Leadership applied creative solutions to scale our typical weeklong in-person meeting with 19+ parallel technical tracks down to four virtual, sequential technical areas spanning two half-days via Microsoft Teams. Distribution A is required for all presentations to maximize attendance of a geographically distributed workforce across and outside of our community of practice.

Current TAG members will notice that the structure of the VTAG agenda looks quite different from our typical program. VTAG planners suspended the typical SubTAG construct and processes in order to support a popup virtual arrangement. The 2020 SubTAG Chairs provided abstracts already accepted through the TAG 74 submission process in February. Over the following few months, several communication cycles occurred with those speakers to confirm availability to present during an 18/19 November VTAG. The agenda places these topics into four technical areas:

Modeling and Simulation

Measurement and Analysis

Readiness and Resilience

Human Systems Integration

In addition to our community of practice technical briefs, your Navy host has secured speakers who will offer perspective on the importance of human centric readiness and resilience and the impact of what we do for the military workforce. A Naval Postgraduate School (NPS) representative will also provide a status update on the Adaptive Acquisition Pathways Workshop many TAG members participated in earlier this year.

Please go to <https://www.surveymonkey.com/r/VTAG2020> or scan the QR code below to provide feedback on VTAG 2020.



VTAG THEME

Resilience 2020: Are We Ready?

The demanding nature of continuous operations and dynamic threat vectors require military and civilian personnel to demonstrate and sustain optimal cognitive and physical performance in challenging situations. Factors such as environmental stressors, physiology, fatigue, resources, culture, leadership, and communications affect human physical, mental, and emotional states. These impacts may materialize and even compound, reducing readiness and resilience of our military forces and civilian workforce.

The focus of this virtual event is on applying an interdisciplinary, human centric approach to the exploration of challenges and solutions relating to whole system resilience as a major enabler of mission readiness and sustained force lethality. DoD HFE TAG is providing this virtual forum as an opportunity for our members to sustain cross-service learning, leveraging, and information exchange across the HFE and Human Systems Integration (HSI) communities.

VTAG LEADERSHIP

** Current leadership will remain in place for TAG #74 in Spring of 2021*

Proponent

Dr. Ben Petro, Director, Human Systems Directorate, Office of the Undersecretary of Defense for Research & Engineering OUSD(R&E)

Chair

Dr. Tom Alicia, Engineering Research Psychologist, Combat Capabilities Development Command, Army Futures Command

Vice Chair

Ms. Marianne Paulsen, Engineering Psychologist, Naval Information Forces Command, N7 Training and Education

Outgoing Chair

Dr. John Plaga, Chief Engineer, 711th Human Performance Wing/RHBFD, Wright-Patterson Air Force Base

OUSD(R&E) Proponent Liaison

Dr. Liana Algarín, Human Factors Senior Analyst, Strategic Analysis, Inc.

VTAG Program

**All times are in ET and agenda is subject to change*

Wednesday, 18 November

Commencement Events

1200 - 1215	Welcome Day One	Tom Alicia, Ph.D., Chair
1215 - 1230	Opening Remarks	Ben Petro, Ph.D., OUSD(R&E) TAG Proponent
1230 - 1245	Keynote Address: Information Warfare Readiness	Capt. Sean P. Kelley Chief of Staff, Naval Information Forces (NAVIFOR)

Technical Sessions

1245 - 1400	Readiness & Resilience	
1400 - 1430	BREAK	
1430 - 1600	Modeling & Simulation	
1600 - 1630	Close Day One	Marianne Paulsen, Vice Chair

Thursday, 19 November

Special Events

1200 - 1215	Welcome Day Two	Marianne Paulsen, Vice Chair
1215 - 1245	TAG the Deckplate	ITCM Sean Lyons COMNAVAIRLANT Jennifer Blankenship, CNSP N67
1245 - 1300	Guest Speaker: HSI Across Adaptive Acquisition Pathways	Larry Shattuck, Ph.D. Naval Postgraduate School (NPS)

Technical Sessions

1300 - 1400	Measurement & Analysis	
1400 - 1430	BREAK	
1430 - 1600	HSI	
1600 - 1630	VTAG Closing	Tom Alicia, Ph.D., Chair

VTAG Keynote Address

Captain Sean P. Kelley

Chief of Staff, Naval Information Forces (NAVIFOR)

A native of Barnstable, Massachusetts and a graduate of Norwich University, CAPT Sean P. Kelley holds a Master's Degree in National Security Affairs from the Naval Postgraduate School and diplomas from the Defense Language Institute, as well as the Joint Forces Staff College. CAPT Kelley is a recipient of the Office of Naval Intelligence's Edwin Layton Award for Leadership.

His sea duty and theater tours include service as the intelligence officer for Marine Medium Helicopter Squadron 266, which included participation in Eyes over Mogadishu and Operation Continue Hope. After Somalia, he redeployed for Operation Support Democracy in Haiti and served with a Marine Fighter - Attack Squadron during Operation Deny Flight over the Balkans. Additional operational assignments include duty as Assistant Intelligence Officer on the staff of Commander, Carrier Group FOUR and as Assistant Chief of Staff for Intelligence (N2), Commander, Carrier Strike Group EIGHT (CSG8)/Dwight D. Eisenhower Strike Group. During Operation Enduring Freedom, while assigned to Strike Group EIGHT, CAPT Kelley served as N2 for the U.S. Navy's Task Force 50 in the Northern Arabian Sea.

Ashore, his assignments included duty at the Office of Naval Intelligence, Joint Analysis Center Molesworth, U.K., Joint Chiefs of Staff (JCS J2), and the U.S. Pacific Command's Joint Intelligence Operations Center (PACOM JIOC).

His leadership tours include Commanding Officer, U.S. Navy Information Operations Command, Misawa, Japan, Commanding Officer, Nimitz Operational Intelligence Center, Office of Naval Intelligence and Information Warfare Commander, Carrier Strike Group TEN.

His military decorations include the Legion of Merit Medal, Defense Meritorious Service Medal, Meritorious Service Medal, Joint Service Commendation Medal, Navy Commendation Medal, and various campaign and service medals.

In September 2020, CAPT Kelley assumed his duties as the Chief of Staff, Naval Information Forces.

18 NOV VTAG Technical Sessions

1245 - 1415 Readiness and Resilience

- 1245 - 1300 Unit Resilience Measure Development and Validation**
Cassie Berry, Ph.D., U.S. Army Research Institute for the Behavioral and Social Sciences
- 1300 - 1315 Human Readiness Levels: Where Are We Now?**
Judi See, Ph.D., Sandia National Laboratories
- 1315 - 1330 Applications of Savoring to Enhance Resilience in Military Organizations**
Anton Sytine, Army Research Institute - Fort Benning Research Unit, GA
- ~~1330 - 1345~~ **Task Demand Impact on Operator Communication and Mobility with Novel Display Technology**
Aaron Rowen Ph.D., Naval Information Warfare Center - Atlantic
- 1330 - 1345 Team Overmatch: Resilience Training in the Military**
Laura Milham, Ph.D., Naval Air Warfare Center Training Systems Division
- 1345 - 1400 Development of an Industry Standard Practice for Manpower and Personnel (SAE 1010)**
Christopher Plott, Ph.D., Alion Science & Technology

1430 - 1600 Modeling and Simulation

- 1430 - 1445 Graphical Fidelity Requirements for Spatial Orienting with 3D Terrains**
Aaron Gardony, US Army CCDC Soldier Center - Natick, MA
- 1445 - 1500 Determining the Arbiter for Dynamic Task Allocation in Adaptive Automation Systems**
Gabriella Hancock, Ph.D., California State University, Long Beach
- 1500 - 1515 IMPRINT Human Performance Modeling for Future Attack Reconnaissance Aircraft (FARA) Crew Workload and Configuration Assessments**
Scott Scheff, HF Designworks, Inc.
- 1515 - 1530 Building a Comprehensive Model of Performance in Human-Machine Teams**
Mike Brady, Infoscitex
- ~~1530 - 1545~~ **Integrated Model Based Human Systems Engineering (MBHSE) Using the Systems Modeling Language (SysML)**
Clayton (CJ) Hutto, Georgia Tech Research Institute (GTRI)
- 1530 - 1545 Incorporating Key Leader Engagement into Tactical Simulations**
Cadets Jordan Blackman, Morgan Chewning-Kulick, Christopher Dean, Anna Loa Jake Whisenhunt, Jacob E. Ziadeh; US Military Academy, West Point Cadets '21

19 NOV VTAG Technical Sessions

1300 - 1400 Measurement and Analysis

- 1300 - 1315 **Fatigue Detection and Prediction Using Wearable Technology**
Rachel Sides, Naval Surface Warfare Center – Dahlgren
- ~~1300 - 1315~~ **Analytically Oriented Human Performance Measures for Model Based Human Systems Engineering (MBHSE)**
Clayton (CJ) Hutto, Georgia Tech Research Institute (GTRI)
- 1315 – 1330 **Computer-Assisted Text Analysis (CATA): Content Analysis Scoring of Structured Interview Questions**
James Johnson, Ph.D., United States Air Force
- 1330 – 1345 **Task-Based Automated Test Case Generation for Autonomy and AI Test & E**
James Cunningham, United States Air Force
- 1345 - 1400 **Accounting for Integrity and Cognitive Factors in a Workspace for Human-Machine Team Intelligence Analysis**
Scott Friedman / Christopher Miller, SIFT
- ~~1400 - 1415~~ **Using Human and Machine Facial Analysis in Navy Personnel Selection and Training**
Bob Pokorny, Ph.D., Intelligent Automation, Inc.

1430 - 1600 Human Systems Integration

- 1430 - 1445 **Human Systems Integration for Polar Security Cutter Design**
Debra Clark-De Tora, Naval Surface Warfare Center – Dahlgren
- 1445 - 1500 **Implementation of HSI in NASA's Gateway Program**
Sherry Thaxton / Jackelynn Silva-Martinez, NASA
- 1500 - 1515 **The UK MoD Future Workforce & Human Performance Research Programme**
Mike Boardman, United Kingdom Ministry of Defence, Defence and Security Analysis
- 1515 - 1530 **Human Augmentation Research and Policy in the MOD**
Joe Popiolek / Annalise Whittaker, United Kingdom Ministry of Defence, Defence and Security Analysis
- 1530 - 1545 **Human Systems Integration Education Opportunities at AFIT**
Michael Miller, Ph.D., Air Force Institute of Technology
- 1545 - 1600 **1472 The UK Version: A Comprehensive Set of HSI Guidelines for all the Domains**
Robert Smillie, FPE/CIEHF

Thank you for attending VTAG 2020!

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DoD HFE TAG #74

Spring of 2021

US Navy Hosted

**Naval Surface Warfare Center, Port
Hueneme Division (NSWC PHD)**

Check the TAG Website and Social Media for updates

<https://rt.cto.mil/ddre-rt/dd-rtl/hfetag/>



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