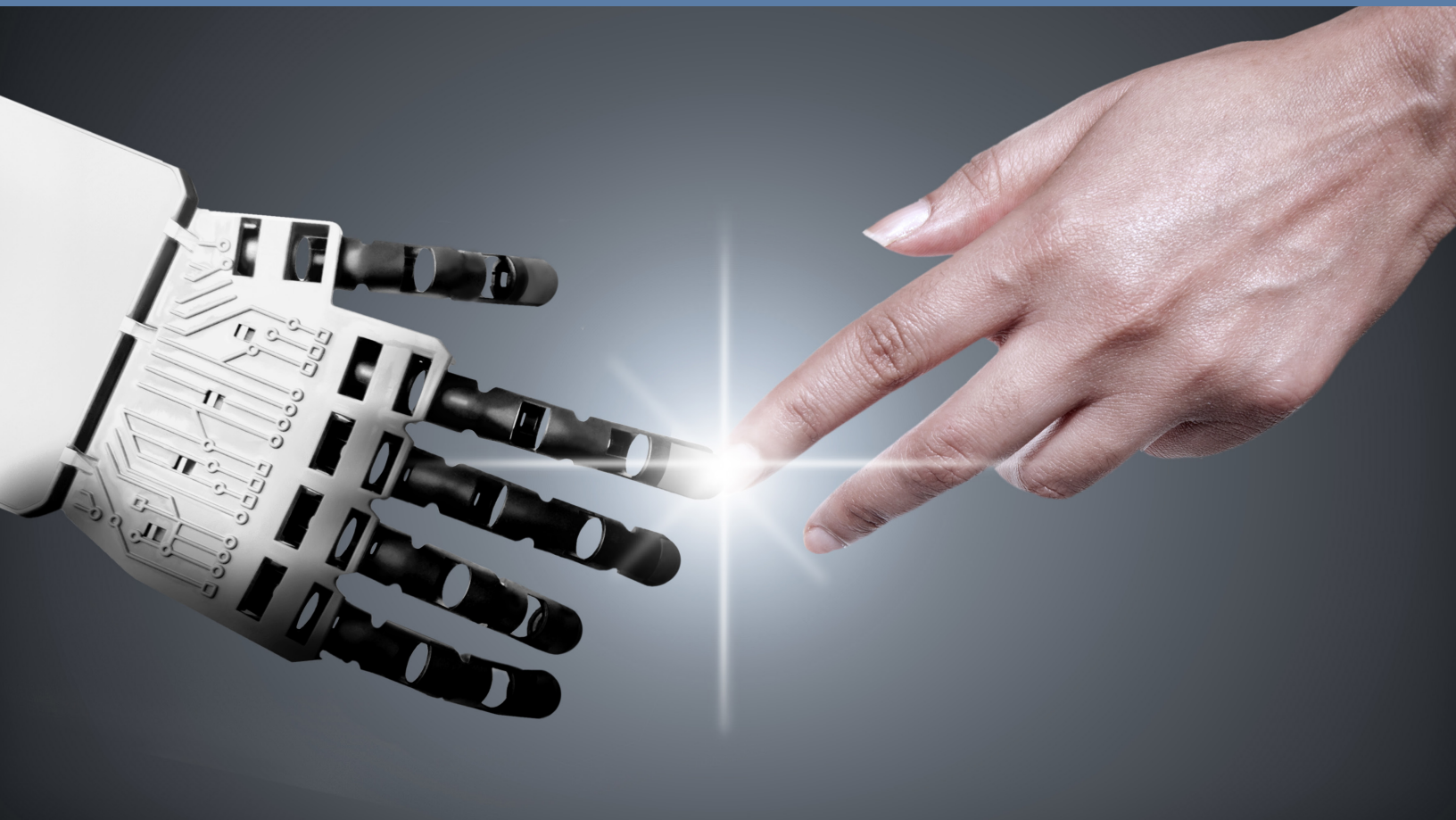


NDIA

2017

Human Systems Conference

Achieving the Third Offset:
Maximizing Human-Machine Symbiosis



Onsite Agenda

March 7-8, 2017
Waterford at Springfield, Springfield, VA
www.ndia.org/events/2017/3/7/7350

Tuesday, March 7, 2017

LOCATION

The Waterford at Springfield
6715 Commerce Street
Springfield, VA 22150

WIFI ACCESS

Username: H2Osingleton1 or
H2Osingleton2
Password: singleton123

ATTIRE

Appropriate dress for the conference is business for civilians and Class A uniform or uniform of the day for military personnel.

ID BADGE

During conference registration and check-in, each attendee will be issued an identification badge. Please be prepared to present a valid picture ID. Badges must be worn at all conference functions.

SPEAKER DONATION

In lieu of speaker gifts, a donation will be made to the Fisher House Foundation. For additional information, please visit:

<http://www.fisherhouse.org>

7:00 AM – 5:00 PM **Registration**
Foyer

7:00 AM – 8:00 AM **Continental Breakfast**
Foyer

8:00 AM – 8:15 AM **Welcome and Introductory Remarks**
Miller/Singleton Combo Ballroom

- Dr. Christopher Nemeth, *Principal Scientist, Applied Research Associates; Chair, NDIA Human Systems Division*

8:15 AM – 9:00 AM **Keynote Address**
Miller/Singleton Combo Ballroom

- Dr. Jason Matheny, *Director, IARPA*

9:00 AM – 9:15 AM **Networking Break**
Foyer

9:15 AM – 10:45 AM **Human Systems Response to a 3rd Offset Strategy from a DoD Perspective**
Miller/Singleton Combo Ballroom

- **Moderator:** Dr. John Tangney, *Director, Human and Bioengineered Systems Division, ONR*
- Dr. Elizabeth Bowman, *Operations Research Analyst, ARL*
- Dr. Glenn Gunzelmann, *Senior Research Psychologist, AFRL, Cognitive Models and Agents Branch*
- Dr. Mike LaFiandra, *Chief Scientist (Acting), Human Research and Engineering Directorate, ARL*
- Dr. Todd Nelson, *Strategic Planning and Transformation Division, AFRL*
- Dr. Peter Squire, *Program Officer, ONR*

10:45 AM – 12:00 PM **Facing the 3rd Offset's Human Systems Challenges**
Miller/Singleton Combo Ballroom

- **Moderator:** Dr. Christopher Nemeth, *Chair, NDIA Human Systems Division; Principal Scientist, Applied Research Associates*
- Ms. Laura Major, *Division Leader, Information and Cognition Division, Draper*
- Ms. Charlotte Shabarekh, *Division Director, Analytics, Modeling, and Simulation Division, Aptima, Inc.*
- Dr. Ron Storm, *UAS Futurist and Professor of UAS Studies, GCI*
- Dr. Jim Tittle, *Principal Scientist, Charles River Analytics*

12:00 PM – 1:00 PM **Networking Lunch**
Von Sternberg/Hazel Combo Ballroom

1:00 PM – 2:30 PM **Poster Session**
Von Sternberg/Hazel Combo Ballroom

2:30 PM – 3:45 PM **Session #1: Protection, Sustainment, and Warfighter Performance (PS&WP)**
Miller/Singleton Combo Ballroom

- **Rim-to-Rim Wearables At The Canyon for Health (R2R WATCH)**
Dr. Glory Avina, *Quantitative Psychologist*, Sandia National Laboratories
Presented by Dr. Clifford Anderson-Bergman, *Statistician*, Sandia National Laboratories
- **Body Position Measurement System for Dynamic, Non-Line-of-Sight Applications**
Mr. Matthew Davis, *Lead Research Engineer*, Luna Innovations
Presented by Ms. Emily Templeton, *Senior Research Engineer*, Luna Innovations
- **Predictive Human Models and the Third Offset**
Dr. Tim Marler, *Chief Research Officer*, SantosHuman, Inc.

3:45 PM – 5:00 PM **Session #2: Human Aspects of Operations in the Military Environment (HAOME)**
Miller/Singleton Combo Ballroom

- **Human Aspects of Operations in the Military Environment (HAOME) – The Gray Zone**
Ms. Marjorie Greene, *Research Analyst*, CNA
- **The Critical Role of Positive Incentives in Reducing Insider Threat**
Mr. Andrew Moore, *Lead Insider Threat Researcher*, Software Engineering Institute
- **Extending Human Systems Integration Approaches to Support Human-Machine Teaming with Increasingly Autonomous Military Systems**
Dr. James Pharmer, *Principal Scientist*, *Science of Learning*, NAWCTSD
- **Evaluation of the Marine Corps Combat Operations Center (COC) Intercom System**
Ms. Rachael Lund, *HSI Engineer*, NSWC Dahlgren

5:00 PM **Closing Remarks and Adjourn**
Miller/Singleton Combo Ballroom

- Dr. Christopher Nemeth, *Principal Scientist*, Applied Research Associates; *Chair*, NDIA Human Systems Division

5:15 PM – 6:45 PM **Networking Reception**
Korman Room

CONFERENCE CONTACT

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ADVERTISING CONTACT

Advertise in *National DEFENSE* magazine and increase your organization's exposure. *National DEFENSE* will be distributed to attendees of this conference, as well as other NDIA events. For more information, please contact:
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DIVISION CHAIR

Dr. Christopher Nemeth
Principal Scientist, Applied Research Associates
Chair, NDIA Human Systems Division

NDIA EVENTS

Please visit the NDIA website for a complete listing of the events we offer.

www.ndia.org/events

Wednesday, March 8, 2017

7:00 AM – 5:15 PM **Registration**
Foyer

7:00 AM – 8:00 AM **Continental Breakfast**
Foyer

8:00 AM – 8:15 AM **Welcome and Introductory Remarks**
Miller/Singleton Combo Ballroom

- Dr. Christopher Nemeth, *Principal Scientist*, Applied Research Associates; *Chair*, NDIA Human Systems Division

8:15 AM – 9:00 AM **Keynote Address**
Miller/Singleton Combo Ballroom

- Dr. Thomas Russell, *Deputy Assistant Secretary of the Army for S&T*, Chief Scientist of the Army

9:00 AM – 9:15 AM **Networking Break**
Foyer

9:15 AM – 10:15 AM **Joint Panel: Toward Establishment of Requirements for Using LVC Environments to Train Operators**
Miller/Singleton Combo Ballroom

Moderator: CDR Henry Phillips, PhD, *Military Deputy for Research and Engineering*, NAWCTSD

- Dr. Gregory A. Goodwin, *Senior Research Scientist*, U.S. Army Research Laboratory Human Research and Engineering Directorate
- Mr. John "Moses" Noah, *Secure LVC Advanced Training Environment (SLATE) Lead*, AFRL
- Mr. Luis Velazquez, *Deputy Director, Systems Engineering, Interoperability, Architecture & Technology (SIAT)*, MCSC
- Ms. Melissa Walwanis, *Applied Science and Technology Branch Head*, NAWCTSD

10:15 AM – 11:30 AM **Session #3: Personalized Assessment, Education and Training (PAE&T)**
Miller/Singleton Combo Ballroom

- **Developing Human Performance Through Perceptual-Cognitive Training**
Dr. Thomas Romeas, *Postdoctoral Researcher*, CogniSens, Inc.
Presented by Dr. Eduardo Lugo, *Researcher*, CogniSens Applied Research Center
- **The Total Learning Architecture (TLA): Learning Across Applications**
Dr. Damon Regan, *External Research Lead*, The Tolliver Group, Inc.
Presented by Dr. Shane Gallagher, *Senior Learning Scientist*, Advanced Distributed Learning Initiative
- **Adaptive Flight Training Systems Using Physiological Based Feedback**
Dr. Tom Schnell, *Associate Professor and Director*, Operator Performance Laboratory (OPL) - University of Iowa
- **Learner-Aware Constructive Entities for Scalable Adaptive, Personalized Training**
Dr. Robert Wray, *Senior Scientist*, Soar Technology, Inc.

11:30 AM – 12:30 PM **Networking Lunch**
Von Sternberg/Hazel Combo Ballroom

- 12:30 PM – 1:45 PM** **Session #4: HSI Metrics**
Miller/Singleton Combo Ballroom
- **Modeling of Human-System Interactive Effects in Systems of Systems**
Mr. Matthew Hoffman, *Principal Member of R&D Staff*, Sandia National Laboratories
 - **Analogs to Instill HSI Considerations into DOD Acquisition Programs**
Mr. John Plaga, *Supervisory Senior Research Aerospace Engineer*, USAF – 711 HPW/HPIF
 - **How Human Systems Integration (HSI) Contributes to System Architecture**
Dr. Janae Lockett-Reynolds, *HSI Branch Chief*, U.S. Department of Homeland Security
Mr. Mark Adams, *Operations Research Analyst*, U.S. Department of Homeland Security
- 1:45 PM – 2:00 PM** **Networking Break**
Foyer
- 2:00 PM – 3:15 PM** **Session #5: Systems Interface and Cognitive Processing (SI&CP)**
Miller/Singleton Combo Ballroom
- **Operator Traits and Adaptation Styles for a Co-Adaptive System**
Dr. Caroline Harriott, *Senior Member of Technical Staff*, Draper
 - **Neuroergonomics in the Real World: Differentiation Between Navigation Displays**
Dr. Ryan McKendrick, *Applied Cognitive Scientist*, Northrop Grumman Corporation
 - **Supporting Salience: Valid IT Improves Burn ICU Decision Making**
Dr. Christopher Nemeth, *Principal Scientist*, Applied Research Associates
 - **The Importance of Shared Awareness for Achieving Human-Machine Symbiosis**
Dr. Stephen Whitlow, *Principal R&D Scientist*, Honeywell Aerospace Advanced Technology
- 3:15 PM – 5:15 PM** **Roundtable Discussions**
Miller/Singleton Combo Ballroom
- Table 1: Systems Interface and Cognitive Processing (SI&CP)
 - Table 2: Protection, Sustainment, and Warfighter Performance (PS&WP)
 - Table 3: Personalized Assessment, Education, and Training (PAE&T)
 - Table 4: Human Aspects of Operations in Military Environments (HAOME)
 - Table 5: Human Systems Integration (HSI) Metrics
- 5:15 PM – 5:30 PM** **Closing Remarks**
Miller/Singleton Combo Ballroom
- Dr. Christopher Nemeth, *Principal Scientist*, Applied Research Associates; *Chair*, NDIA Human Systems Division
- 5:30 PM** **Conference Adjourns**

Poster Presentation Directory

- **Interactive Next-generation Testbed Environment for Retention and Assessment of Computer-based Training (INTERACT)**
Ms. Lisa Baraniecki, *Program Director*, AnthroTronix, Inc.
- **Metrics of Operator Performance and Experience for Adaptive Human-System Interfaces**
Dr. Krysta Chauncey, *Applied Cognition & Psychophysiology*, Draper
Presented by Dr. Zahar Prasov, *Senior Research Engineer*, Draper
- **Human Systems Integration Assessment of Exoskeleton Technology**
Mr. Jeffrey Craig, *Human Systems Integration Program Manager*, Decypher Technologies, LTD
- **Building Generalized Systems to Assess Human Cognitive Processing of Complex Scenes**
Dr. Stephen Gordon, *Neurosciences Branch Manager*, DCS Corporation
- **Communicating Emerging Technology Concepts to Training Stakeholders Through Multimedia Narratives**
Dr. Raegan Hoeft, *Director*, Federal Solutions, Design Interactive
- **Rapidly Reconfigurable, Intuitive Human Machine Interface Approach**
Mr. David Jakubek, *Director*, Advanced Technology, ENSCO, Inc.
- **Augmenting Human Performance Abilities with a Sensory Feedback System**
Mr. Eduardo Lugo, *Innovation Product Manager*, Cognisens Applied Research Center
- **Integrating Narrative into the Decision-Making Process**
Dr. Cameron MacKenzie, *Research Associate*, Ames Lab
- **Predictive Models for PPE and Human Systems Integration**
Dr. Tim Marler, *Chief Research Officer*, SantosHuman, Inc.
- **Reliable Objective Cognitive Assessment (ROCA)**
Dr. Neil McDonald, *Senior Scientist*, Quantum Applied Science and Research, Inc.
- **Curvilinear Basis for Cognitive Load State Classification**
Dr. Ryan McKendrick, *Applied Cognitive Scientist*, Northrop Grumman Corporation
- **The Human Centered Design Influence on Cyber Security Accreditation**
Dr. Dominique Noel, *Chief*, Cyber Security Innovation, DoD
- **The Human Readiness GPS**
Dr. Kevin Oden, *Senior Technical Staff*, Lockheed Martin
- **From Osseointegration to Human-Machine Fusion**
Dr. Liming Salvino, *Program Manager*, Office of Naval Research
- **Communication in High Noise Environments – A Warfighter Performance Issue**
Mr. Kurt Yankaskas, *NIHL Program Officer*, Office of Naval Research