

LOCATION

Hilton Alexandria Old Town
1767 King St.
Alexandria, VA 22314
(703) 837-0440

ATTIRE

Appropriate dress for the Conference is business casual for civilians and Class B 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.

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TUESDAY, FEBRUARY 10, 2015

7:00 AM – 6:30 PM

Registration
Grand Ballroom Foyer

7:00 AM – 8:00 AM

Continental Breakfast
Grand Ballroom Foyer

8:00 AM – 8:15 AM

Welcome and Introductory Remarks
Grand Ballroom A/B

- ▶ Christopher Nemeth, PhD, Chair, NDIA Human Systems Division; Principal Scientist, Applied Research Associates
- ▶ MG Barry Bates, USA (Ret), Vice President, Operations, NDIA
- ▶ Dylan Schmorrow, PhD, Chief Scientist, Soar Technology, Inc.
- ▶ CDR Joseph Cohn, USN, PhD, Deputy Director, Human Performance, Training and BioSystems Directorate, Office of the Assistant Secretary of Defense for Research and Engineering

8:15 AM – 8:45 AM

HSI in DoD Requirements
Grand Ballroom A/B

- ▶ Mr. Richard Parker, SES, Director, Mission Command Capabilities Development and Integration Directorate (MC-CDIC)

8:45 AM – 9:30 AM

Keynote Address
Grand Ballroom A/B

- ▶ Mr. Al Shaffer, Principal Deputy Assistant Secretary of Defense for Research and Engineering

9:30 AM – 10:00 AM

Networking Break
Grand Ballroom Foyer

10:00 AM – 11:30 AM

Session 1: Systems Interface and Cognitive Processing (SICP)
Grand Ballroom A/B
Session Chairs

- ▶ Todd Nelson, PhD, Chief, Strategic Planning and Transformation Division, U.S. Air Force Research Laboratory
- ▶ Mr. Gary Gomez, Independent Consultant, Taylor Connor Associates, LLC

CEDARS: Combined Exploratory Data Analysis Recommender System

- ▶ Mark Livingston, PhD, Computer Scientist, U.S. Naval Research Laboratory

Using Physiological and Behavioral Information to Contextualize Cognitive State and Event Detection for Human-Autonomy Integration Systems

- ▶ Stephen Gordon, PhD, Electrical Engineer, DCS Corporation

Real-Time Operator Physiological Monitoring to Drive Human-Robot Interaction (HRI) Design

- ▶ Anna Skinner, PhD, Human Factors Program Manager, AnthroTronix, Inc.

11:30 AM – 12:50 PM

Session 2: Protection, Sustainment and Physical Performance (PSPP)

Grand Ballroom A/B

Session Chairs

- ▶ Mike LaFiandra, Sc.D, Chief, Dismounted Warrior Branch, U.S. Army Research Laboratory
- ▶ Mr. Jean Castonguay, President and CEO, CogniSens, Inc.

Integrated Cognitive and Physical Training to Optimize Human Performance and Discourage Post-Traumatic Stress and Suicide

- ▶ Mr. Paul Butler, Senior Modeling and Simulation Engineer, The MITRE Corporation

Smarter, Faster, Safer: Cognitive Enhancement Training to Improve Decision-Making Under Pressure

- ▶ Jocelyn Faubert, PhD, Chief Science Officer, CogniSens, Inc.

Ready for Anything: NeuroTracker, a Cutting-Edge Technology that Accelerates the Acquisition of Tactical Awareness, Attention and Decision-Making Skill Under Pressure

- ▶ Mr. Jean Castonguay, President and CEO, CogniSens, Inc.

Novel Application and Validation of an Optical Scoring System for Small Arms Human Performance, Research and Development

- ▶ Mr. Frank Morelli, Research Psychologist, U.S. Army Research Laboratory

Rapid Assessment of Clothing and Equipment Using Advanced Thermal Simulation to Lighten the Thermal Load

- ▶ Mr. John Elson, Graduate Research Assistant, Institute for Environmental Research, Kansas State University

12:50 PM – 1:45 PM

Networking Lunch

Grand Ballroom C

1:45 PM – 3:15 PM

Session 3: Personnel, Training and Leadership Development (PTLD)

Grand Ballroom A/B

Session Chairs

- ▶ Winston “Wink” Bennett, PhD, Technical Advisor, Continuous Learning and Performance Assessment Research, U.S. Air Force Research Laboratory
- ▶ Scott Grigsby, PhD, Senior Scientist, Ball Aerospace

Co-located vs. Distributed Teams: A Virtual Schoolhouse Experiment at Fleet Anti-Submarine Warfare Training Center

- ▶ Mrs. Helen Wright, Scientist, Naval Undersea Warfare Center

Cognition: Conation Partnership

- ▶ Mr. David Kolbe, Chief Executive Officer, Kolbe Corporation

Intelligent Tutoring for the Conning Officers Virtual Environment (COVE)

- ▶ Ms. Lauren Ogren, Human Systems Engineer, Naval Undersea Warfare Center

Human Phenotype Ontology

- ▶ Mr. Michael D. Matthews, Fellow, Strategic Studies Group, Office of the Chief of Staff of the Army

3:15 PM – 3:30 PM

Networking Break

Grand Ballroom Foyer

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>

ADVERTISING

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PROCEEDINGS

Proceedings will be available on the web through the Defense Technical Information Center (DTIC) two weeks after the Conference. All registered Attendees will receive an email notification once the proceedings are available.

SURVEY

A survey will be e-mailed to you after the Conference. We would appreciate your time in completing the survey to help make our event even more successful in the future.

NDIA EVENTS

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Select:
Meetings & Events
Schedule of Events

3:30 PM – 5:00 PM

Session 4: Social, Cultural, Behavioral Understanding (SCBU)

Grand Ballroom A/B

Session Chairs

- ▶ Elizabeth Bowman, PhD, Operations Research Analyst, U.S. Army Research Laboratory
- ▶ Lisa Costa, PhD, Director, Counter Violent Extremism and Weapons of Mass Destruction, The MITRE Corporation

Social Security Sector Radar Capability

- ▶ Mrs. Asma Abuzaakouk, Social and Behavioral Scientist, The MITRE Corporation

Information and Conflict

- ▶ Rebecca Goolsby, PhD, Program Officer, Office of Naval Research

Applying Modeling and Simulation to Foreign Policy

- ▶ Corey Lofdahl, PhD, Senior Scientist, Charles River Analytics

Challenges in the Operational Use and Validation of Sociocultural Techniques, Tools, and Models

- ▶ Jonathan Pfautz, PhD, Senior Principal Scientist and Chief, Strategic S&T, Charles River Analytics

Cultural Knowledge Encoding

- ▶ Kaley Leetaru, PhD, Adjunct Faculty, Georgetown University
- ▶ Chris Rewerts, PhD, Research Engineer, U.S. Army Engineer Research & Development Center - Champaign

Convey Knowledge - Not Just Information

- ▶ Sae Schatz, PhD, Independent Researcher

5:00 PM – 6:30 PM

Poster Presentations and Networking Reception (CASH BAR)

Grand Ballroom Foyer

WEDNESDAY, FEBRUARY 11, 2015

7:00 AM – 5:00 PM

Registration

Grand Ballroom Foyer

7:00 AM – 8:00 AM

Continental Breakfast

Grand Ballroom Foyer

8:00 AM – 8:05 AM

Welcome and Introductory Remarks

Grand Ballroom A/B

- ▶ Christopher Nemeth, PhD, Chair, NDIA Human Systems Division; Principal Scientist, Applied Research Associates

8:05 AM – 8:35 AM

Plenary Address: Human Readiness Levels: Linking S&T to Acquisition

Grand Ballroom A/B

- ▶ Mica Endsley, PhD, Chief Scientist, U.S. Air Force

8:35 AM – 9:20 AM

Panel: Human Readiness Levels: Linking S&T to Acquisition

Grand Ballroom A/B

- ▶ Co-Moderator: BG Pete Palmer, USA (Ret), Director, EDGE[®] Innovation Network, General Dynamics Mission Systems
- ▶ Co-Moderator: Kelly Hale, PhD, Senior Vice President, Design Interactive, Inc.
- ▶ Mica Endsley, PhD, Chief Scientist, U.S. Air Force
- ▶ Mr. David Kolbe, Chief Executive Officer, Kolbe Corporation
- ▶ Greg Zacharias, PhD, Deputy Chair, NDIA Human Systems Division; President, Charles River Analytics
- ▶ Mr. Richard Parker, SES, Director, Mission Command Capabilities Development and Integration Directorate (MC-CDIC)
- ▶ CDR Joseph Cohn, USN, PhD, Deputy Director, Human Performance, Training and BioSystems Directorate, Office of the Assistant Secretary of Defense for Research and Engineering

9:20 AM – 9:45 AM

Networking Break

Grand Ballroom Foyer

9:45 AM – 11:15 AM

Session 5: Human Systems Integration (HSI) Metrics

Grand Ballroom A/B

Session Chairs

- ▶ Jen Rochlis Zumbado, PhD, Element Manager, Space Human Factors and Habitability, NASA
- ▶ Kay Stanney, PhD, C.H.F.P., President, Design Interactive, Inc.

Surveys in Operational Test & Evaluation

- ▶ Rebecca Grier, PhD, Research Staff Member, Institute for Defense Analyses

Optimizing Warfighter Performance through the Development of HSI Metrics, Requirements and Collaboration

- ▶ Pamela Savage-Knepshield, PhD, Chief, Human Factors Integration Division, U.S. Army Research Laboratory

Operationally Relevant Metrics for Analyst Test-Beds: Evaluating How Analysts Make Use of their Tools to Inform Tool Development, Integration and Adaptation

- ▶ Joshua Poore, PhD, Senior Experimental Psychologist, Draper Laboratory

A Heuristic-Based Framework for Assessing Operator Trust in Autonomous Systems

- ▶ Ms. Kimberly Jackson, Human Systems Engineer, Draper Laboratory

Methods and Metrics for Real-Time Task Performance Assessment in Crewed Spacecraft

- ▶ Kevin Duda, PhD, Senior Aerospace Human Factors Engineer, Draper Laboratory

11:15 AM – 12:30 PM

Networking Lunch

Grand Ballroom C

12:30 PM – 1:15 PM

Panel Discussion: Rising Issues in Human Systems (Government)

Grand Ballroom A/B

- ▶ Moderator: CDR Joseph Cohn, USN, PhD, Deputy Director, Human Performance, Training and BioSystems Directorate, Office of the Assistant Secretary of Defense for Research and Engineering
- ▶ Laurel Allender, PhD, Director, Human Resource and Engineering Directorate, U.S. Army Research Laboratory
- ▶ John Tangney, PhD, Director, Human and Bioengineered Systems Division, Office of Naval Research
- ▶ Jim Overholt, PhD, Acting Chief Scientist, Senior Scientist in Autonomous Systems, 711th Human Performance Wing, U.S. Air Force Research Laboratory
- ▶ Michelle Sams, PhD, Director, U.S. Army Research Institute for the Behavioral and Social Sciences

1:15 PM – 2:00 PM

Panel Discussion: Rising Issues in Human Systems (Industry)

Grand Ballroom A/B

- ▶ Moderator: Greg Zacharias, PhD, Deputy Chair, NDIA Human Systems Division; President, Charles River Analytics
- ▶ Mike Paley, PhD, CEO, Aptima
- ▶ Jonathan Pfautz, PhD, Senior Principal Scientist and Chief, Strategic S&T, Charles River Analytics
- ▶ Chris Miller, PhD, Chief Scientist, Smart Information Flow Technologies (SIFT)
- ▶ Kelly Hale, PhD, Senior Vice President, Design Interactive, Inc.
- ▶ Dylan Schmorrow, PhD, Chief Scientist, Soar Technology, Inc.

2:00 PM – 2:30 PM

Roundtable Introductions

Grand Ballroom A/B

Each Roundtable Lead will briefly review their Roundtable's topic; we recommend you use this time to plan which tables you would like to visit ahead of the Session. Attendees will have approximately 35 minutes to visit (3) tables of their choice for a discussion on the subject matters listed below.

2:30 PM – 2:45 PM

Networking Break

Grand Ballroom Foyer

2:45 PM – 4:45 PM

Roundtable Discussions

Grand Ballroom C

- ▶ **Table 1:** "Human System Integration (HSI) Metrics"
- ▶ **Table 2:** "Systems Interface and Cognitive Processing (SICP)"
- ▶ **Table 3:** "Protection, Sustainment and Physical Performance (PSPP)"
- ▶ **Table 4:** "Human Social, Cultural Behavioral Understanding (SCBU)"
- ▶ **Table 5:** "Personnel, Training and Leadership Development (PTLD)"

4:45 PM – 5:00 PM

Conference Closing Remarks

Grand Ballroom C

- ▶ Dylan Schmorrow, PhD, Chief Scientist, Soar Technology, Inc.
- ▶ CDR Joseph Cohn, USN, PhD, Deputy Director, Human Performance, Training and BioSystems Directorate, Office of the Assistant Secretary of Defense for Research and Engineering
- ▶ Christopher Nemeth, PhD, Chair, NDIA Human Systems Division; Principal Scientist, Applied Research Associates

5:00 PM

Conference Adjourns

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Digital Reasoning®

Digital Reasoning provides an innovative approach to tackling the challenge of big data analytics. Over the past decade its software analytics platform, Synthesys®, has been used in government agencies to uncover security threats and enable intelligence analysts to find and act on critical relationships in big data. Synthesys® is designed to understand how humans communicate by analyzing the context, content and relationships within data while semantically revealing what's most critical to our clients. By reading information from any data source, resolving what's valuable and what's not, and by reasoning using a dynamic knowledge base, Digital Reasoning understands human communications, which enables any organization to answer tomorrow's questions, today.

Synthesys® takes unstructured, semi-structured and structured information as input and uses entity extraction with strong semantic relationship analysis to generate actionable information. This information (people, places, connections and actions) can then be used to understand and analyze what's important and determine what actions need to be taken in order to mitigate the risk or expand an opportunity. The platform does not rely upon predefined models to make sense of the data (i.e. exhaustive extraction or ontology-type models). Instead, it derives patterns and relationships from the data itself, saving considerable time and effort by circumventing the need to create new models for every new type of data or analytical problem.

Use Cases and Suggest Research Areas:

- Intelligence Analysis: Uncover entities, facts and relationships in massive quantities of data to help analysts provide actionable information to senior decision-makers. (ABI/OBP methodology standards used)
- Counterintelligence: Help protect the compromise and proliferation of classified information by analyzing a wide range of data sources in order to identify and prioritize threats. (ABI/OBP methodology standards used)
- Cyber Security: Identify, determine and prevent cyber attacks by analyzing social media and electronic communications to build profiles of suspected cyber terrorists that include biographical information, business and political affiliation, and networks of associates.
- Counter-terrorism: Quickly identify threats and connect the dots by linking important people, places, data and key facts associated with the threats – regardless of the underlying data type or data format.

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ATTENDEE ROSTER

as of February 3, 2015

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