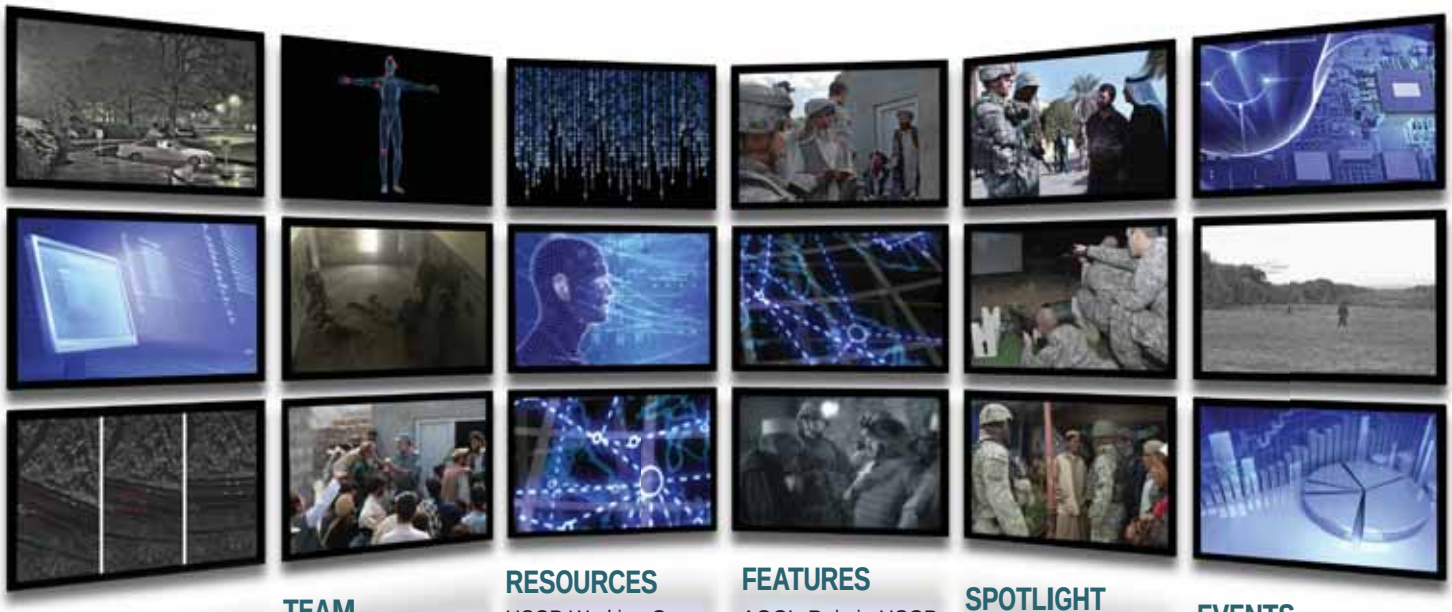
deputy under secretary of defense for science and technology

HSCB

HUMAN SOCIAL CULTURE BEHAVIOR MODELING PROGRAM



HSCB FOCUS 2010 CONFERENCE ANNOUNCEMENT

You are invited to *Human Social Culture Behavior (HSCB) Modeling Program: Focus 2010*, the second in a series of technical exchange meetings hosted by the Office of the Secretary of Defense (OSD) Human Social Culture Behavior Modeling research program.

The meeting will be held from August 5–7, 2009, at the Westfields Marriott Hotel, near Dulles Airport, in Virginia. This meeting will be a gathering of Department of Defense (DoD) and other U.S. government agencies that fund and develop HSCB-related research and development, transition partners, potential technology end-users, and program grantees. Attendance is open to the public. We encourage members of the research and development communities, transition partners, and end-users to participate.

Meeting Purpose

The goal of this meeting is to showcase DoD-wide work in the general HSCB modeling area and to engage OSD HSCB modeling program personnel as well as leading scientific and technical experts working in HSCB related fields in a technical exchange that will shape the future of the OSD HSCB Modeling Program and help inform the broad DoD-wide efforts in these areas. In addition to personnel from the OSD Modeling Program, representatives from both DoD and other Government agencies are expected to attend and showcase their programsinthisarea. This includes representatives from the Defense Advanced Research Projects Agency, Office of Naval Research, Combating Terrorism Technical Support Office, Defense Threat Reduction Agency, Joint Improvised Explosive Device Organization Department of State, Department of Energy, Department of Homeland Security, the Office of the Director of National Intelligence, the Federal Bureau of Investigation and the National Science Foundation.

The response to HSCB Focus 2010 has been overwhelming and I am looking forward to working together with the participants to develop our collective "way ahead".

Ivy Estabrooke, PhD, Technical Chair 2010

Registration site

www.sa-meetings.com/OSD-HSCBFocus2010
Password: Focus2010

Fees

Conference Fee - $275
Conference Fee + Fee for August 4 HSCB Performer Technical Demonstration and Presentation Session (invitation only) - $300

ISSUE Nº 2 SUMMER 2009

Welcome

Welcome to the second issue of the HSCB newsletter. This issue is packed with information about our August 5–7 Human Social Culture Behavior: Focus 2010 Conference, the HSCB Modeling Program team, and useful technical reports that you can find online. We also have a special feature on the HSCB Working Groups, which will give you insight into the mechanics of the OSD HSCB Program.

I'd also like to extend an invitation to each of you to participate in the exciting upcoming DoD and multi-agency wide HSCB Focus 2010 Conference. This is a unique opportunity to engage with hundreds of representatives from the Department of Defense and other government agencies, researchers and developers from academia and industry, HSCB-funded researchers, and HSCB program staff. In addition, it is an opportunity for all to learn about current and upcoming technology investments in the HSCB domain and assist us in defining the future of HSCB research and development. I personally can't imagine anyone interested in HSCB not attending this amazing event. If you are just now hearing about this upcoming conference, register ASAP and bring your colleagues…seats are limited, so sign up quickly. This is a one of a kind event that will set that stage for the future of HSCB as well as significantly shape the investment strategy that will be developed by the government team during the following months. The S&T roadmaps and program execution plan that will result from the Focus 2010 will define the next three years for the OSD HSCB program. Don't miss this opportunity, come to the conference, participate in the exchange of thoughts and ideas; help define the future of HSCB investments.

More information about the three-day conference and a link to the conference registration site, is available in this newsletter.

Looking forward to seeing you all in August,

Dylan Schmorrow
Director, OSD HSCB Modeling Program
Biosystems Associate Director
Office of the Director, Defense Research and Engineering

STAFF

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PROGRAM SUPPORT TEAM

Army Geospatial Center (AGC)

Joseph M. Watts, AGC
Joe Watts began his career in U.S. Federal Service with the Defense Mapping Agency, currently named the National Geospatial Intelligence Agency. In 1987, he transferred to the U.S. Army Corps of Engineers (USACE). Mr. Watts is AGC's project manager for the HSCB program. He serves on the project's Integrated Product Team and chairs the Data / Scenario Working Group.

Aaron Bernard, AGC
Aaron Bernard works as a Geographic Information Systems (GIS) specialist at AGC. His specialties include Natural Sciences GIS, use of server-based GIS technologies for disaster response and humanitarian assistance, and, more recently, the use of cultural mapping and analysis to support warfighter decision-making. Mr. Bernard supports HSCB as the AGC representative on the Architecture and Standards Working Group and is a member of the AGC technical integration team responsible for architectural support in the Technical Performance Evaluations.

Tim Clark, AGC
Tim Clark is a geographer in the Research Division at AGC, where he supports project development and implementation using GIS and Remote Sensing (RS). He specializes in the development of Web-based geospatial analysis tools, database access, and geostatistical modeling for Spatial Decision Support Systems (SDSS). Mr. Clark recently finished his MA at the University of Maryland, where he worked on satellite RS and modeling of volcanic aerosol emissions and their effects on vegetation.

Rick Joy, AGC
Rick Joy has worked for AGC for twenty years, serving as program manager and technical lead for several multi-organizational research and development efforts, including multi-million dollar Army Science and Technology Objectives (STOs). He served as the ERDC Liaison to the U.S. Army Training and Doctrine Command Analysis Center and as a Research Analyst for the Homeland Security Institute at the Naval Postgraduate School.

Dhiren Khona, AGC
Dhiren Khona supports the U.S. Army Corps of Engineers at AGC, working on geo-spatial software development and socio-cultural spatial modeling. Before joining USACE, Mr. Khona served as an Associate at Booz Allen Hamilton (BAH) for two years as an Enterprise GIS Lead at the USACE Headquarters. He supported the development and implementation of the Nation's first National Levee Data Model. Prior to his time with USACE, Mr. Khona was a Lead Developer of geo-spatial applications at Lockheed Martin, for the Department of Energy Headquarters.

Elizabeth Lyon, AGC
Liz Lyon has been a research geographer at the Army Corps of Engineers for the past three years. Her work focuses on the conceptual, ontological and data modeling of the socio-cultural domain. Ms. Lyon has a Masters of Science in Geography from the University of Illinois, where she concentrated on economic and urban geography, and is continuing her education by pursuing advanced course work in computational social science at George Mason University.

COMING IN OCTOBER 2009

Developing intercultural adaptability in the Warfighter: A workshop on cultural training and education

Contact Allison Abbe, PhD for details (allison.abbe@us.army.mil)

PROGRAM SUPPORT TEAM

U.S. Army Research, Development and Engineering Command, Communications-Electronics Research, Development and Engineering Center, Intelligence and Information Warfare Directorate (I2WD)

Richard Pei, CERDEC I2WD
Dr. Richard Pei is the Chief of Modeling and Simulation, U.S. Army RDECOM, CERDEC I2WD, where he serves as the I2WD HSCB Program Manager and is responsible for managing I2WD's HSCB Testbed Program. He is a member of the HSCB Executive Integrated Product Team and Leader of the HSCB Architecture and Standards Working Group. He has over 30 years of experience in managing and executing various Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) and modeling and simulation programs / projects at CERDEC in support of warfighters.

Martin H. Yuen, CERDEC I2WD
Mr. Martin Yuen is Performance Modeling and Program Support Team Leader with the Fusion and Modeling Division at the I2WD, where he serves as Lead Engineer for the I2WD HSCB testbed and integration effort. Mr. Yuen has led experimentation efforts with C4ISR OnTheMove, Fort Knox COunterINsurgency (COIN), FCS Experimentation and Virtual Flag / Red Flag / Desert Pivot Joint Exercise with Kirkland Air Force Base, primarily focusing on the Distributed Common Ground Station – Army (DCGS-A) and Common Ground Station operations and training.

Gary Citrenbaum, CERDEC I2WD
Dr. Gary Citrenbaum, the System Engineer on the I2WD HSCB team, has been developing models, CONOPS, and user interfaces for military-pertinent systems for over 30 years. He currently serves as President and Chief Scientist of System of Systems Analytics, Inc., a small systems engineering firm based in Fairfax, VA.

Kathleen Lossau, CERDEC I2WD
Ms. Kathleen Lossau provides architecture and technical support to Richard Pei on the CERDEC-I2WD HSCB Testbed program and the HSCB Architecture and Standards Working Group. She is currently VP of Intelligence Systems at Potomac Fusion, Inc., where she is spearheading an initiative to provide full-spectrum intelligence support to tactical and national users. She has over 20 years of experience in developing and delivering intelligence systems at both the tactical and national levels in support of irregular and traditional operations.

Shu-Ping Lu, CERDEC I2WD
Ms. Lu is the I2WD lead on the C2S2 project and supports the Assessment Working Group and the Architecture Standards Working Group. She provides software engineering expertise to the CERDEC testbed in the integration and assessment of HSCB models. She also has six years of project leader experience in supporting PM Aerial Common Sensor in the development of upgrades to the Guardrail aircraft payload sensors.

Kathy Tsai, CERDEC I2WD
Ms. Kathy Tsai provides technical on configuration of CERDEC-I2WD HSCB testbed laboratory hardware / software and the HSCB Assessment Working Group. She is currently senior engineering manager of CACI Technologies Inc. She has over 20 years of experience in all aspects of developing medium- to large-scale software systems, software integration and testing, system engineering, quality process, customer support, and end-to-end program management.

Thien Huynh, CERDEC I2WD
Mr. Thien Huynh provides technical support to the I2WD-HSCB program. At I2WD, he has performed a wide range of activities in the modeling and simulation environment to support development of modeling capabilities and the decision aid tools for mission planning. Prior to joining the HSCB team, he managed the Operational Net Assessment program to develop a tool suite for assisting planners and commanders in formulating plans and assessing the effects and progress of an operation within the behavior of societal systems.

ANNOUNCEMENTS

ANNOUNCEMENTS

Dylan Schmorrow selected for Captain

The HSCB team is honored to congratulate CAPT (Sel) Dylan Schmorrow, MSC, USN, PhD and HSCB Program Director, on his selection for promotion to Navy Captain!

Dr. Jeffrey Appleget joins HSCB team

The HSCB program welcomes Dr. Jeffrey Appleget to the HSCB team. After a 30-year career in the Army, Dr. Jeffrey Appleget recently joined the faculty of the Naval Postgraduate School (NPS), where he will spend a portion of his time working for the HSCB program. His HSCB work includes: providing HSCB leadership with access to key HSCB research by obtaining and maintaining cognizance of NPS and Army HSCB-related efforts; cultivating information exchange with various HSCB researchers both on- and off-campus; bringing relevant NPS and Army efforts to the attention of DDR&E HSCB leadership; and leveraging NPS and Army high return-on-investment research to advantage ongoing or proposed HSCB endeavors. This outreach will include all NPS disciplines and Army analytic organizations while also reaching out across all services, academe, industry, and the broader scientific community.

Dr. Appleget will support the HSCB program's Integrated Product Team (IPT), where he will co-lead the Operations & Planning pillar and serve as a member of the Transition Working Group and the Users Working Group.

Dr. Paul K. Davis joins HSCB team

The HSCB program welcomes Dr. Paul Davis to the HSCB team. Dr. Davis is a principal researcher at RAND and a professor of policy analysis in the Pardee RAND Graduate School. He comes to the HSCB program with a long history of research in advanced analysis, modeling, and simulation—much of it of a top-down nature for high-level officials and officers concerned with strategic planning. He has published on such diverse subjects as capabilities-based planning, portfolio analysis, implications of modern decision science for high-level decision support, modeling of adversaries, multiresolution modeling, exploratory analysis under uncertainty, and the need for analytic organizations to use families of tools (models, simulations, games, historical analysis, and empirical field work). Most recently he co-authored a book, Social Science for Counterterrorism, which reviews the relevant scholarly literature and provides an analytic structure of conceptual models.

Dr. Davis will support the HSCB program's Senior Technical Experts Group and will help the program integrate social science modeling into emerging irregular warfare analytic methodology.

HSCB TECHNICAL PERFORMANCE *and Demonstration (TDP) Event*

August 4, 2009

Invitation Only—for HSCB program performers and government personnel

Westfields Marriott Hotel, near Dulles Airport, Virginia

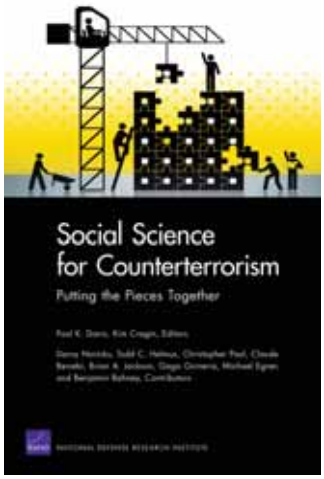
HSCB program awardees will be asked to participate in the day-long August 4 Technical Demonstration and Presentation event. The TDP, held on the day before the three-day HSCB Focus 2010 Conference (August 5–7) gives HSCB program awardees an opportunity to showcase their work to HSCB program management, including: DDR&E's Director for Biosystems, Dr. Bob Foster; HSCB Program Director, CDR Dylan Schmorrow, MSC, USN, PhD; CTTSO Program Manager, Dr. Jim Frank; ONR Program Manager, Dr. Ivy Estabrooke; members of the HSCB Integrated Product Team; and others.

Performers will receive detailed instructions from their program managers.

This event is for program awardees only. Interested parties who are not currently funded under the HSCB program are invited and encouraged to attend the August 5–7 HSCB Focus 2010 Conference, where they can learn more about the program, upcoming funding opportunities across the government, and can attend poster and demonstration sessions featuring current HSCB awardees.

LEVERAGING SOCIAL SCIENCE FOR COUNTERTERRORISM

Rand Publishes Integrative Review



With their recently published monograph, "Social Science for Counterterrorism: Putting the Pieces Together," editors Paul Davis and Kim Cragin synthesize diverse lines of research to provide a thorough analysis of the forces that drive violent political extremism, along with strategies for responding to it. Published by RAND for the Office of the Secretary of Defense (OSD), the report integrates key findings under a common conceptual framework, provides a roadmap for future research, and offers practical insights for policymakers and practitioners. As such, the review will be essential reading for a broad range of audiences, from intelligence community (IC) analysts and counterinsurgency (COIN) force leaders to HSCB modelers and government decision makers.

Key topics addressed include:

- "Root" causes of terrorism—cultural, economic, and sociopolitical
- Individual experiences and risk factors that lead people to become terrorists
- Cultural-cognitive dynamics of terrorist decision-making
- Methods terrorist organizations employ to develop and sustain their support
- Factors that promote "deradicalization" and disengagement from terrorism
- Science-based recommendations for Information Operations (IO) and related strategic communication programs
- Possibilities and limitations of science-based attempts to forecast terrorist phenomena

Interested readers can obtain a free PDF copy of the monograph from RAND's website (http://www.rand.org/pubs/monographs/MG849/). Dr. Davis will discuss this report and related work at HSCB Focus 2010.

Q&A CDR DYLAN SCHMORROW

Introduction

CDR Dylan Schmorrow, MSC, USN, PhD, is the Biosystems Associate Director for Human Systems in the Office of the Director, Defense Research and Engineering and has been selected for promotion to Captain. He is the Program Director for OSD HSCB program and shares his perspective on the past, present and future of the HSCB program with us in this interview.

Q: Can you tell us about the origins of the Human Social Culture Behavior Modeling (HSCB) program? Why did DoD see a need for this program?

Schmorrow: DoD recognized the shift from conventional to irregular warfare, as well as the need for the U.S. to lead stabilization, security, transition, and reconstruction efforts globally. These challenges demand a deep and broad understanding of socio-cultural dynamics. The DoD codified this need in numerous documents, most notably the 2005 Quadrennial Defense Review (QDR) and Directive 3000.05. The need was confirmed by the results of a 2006 study called for by the FY 2008-2013 Strategic Planning Guidance (SPG). After conducting a thorough capability gap analysis, the study recommended that the DoD increase HSCB investment to support research and development with an emphasis on product maturation and transition.

Q: Was there an "aha!" moment that led to the development of the program?

Schmorrow: I think the "aha" came with the results of the SPG study. That study led DDR&E to evaluate the investment and status of R&D in socio-cultural modeling across the department. In order to do this, DDR&E established a working group of subject matter experts (SMEs) from the DoD science and technology community; stakeholders in HSCB R&D were the core participants. This group identified 75 HSCB capability areas, 73 of which had critical gaps, and 37 of which had no investment at all. Discovering these considerable shortfalls definitely led OSD to the "aha!" moment. Additionally, I should note that none of this would have happened without the dedication, determination and leadership of Dr. Bob Foster and CDR Sean Biggerstaff during the conception and development of these ideas and program development. They navigated the challenging paths that "ideas" must take to become official programs and they pioneered new understanding in these areas which ultimately led to the HSCB program.

Q: Broadly speaking, where do you see the HSCB program and its funded projects taking us over the lifetime of the program? What are the ultimate goals of the program?

Schmorrow: I ultimately see tools and systems that would provide enhanced or new capability for a range of decision makers including those working at the Strategic ,Operational and Tactical levels, as well as new training solutions that leverage the emerging HSCB S&T currently under development. We have the challenging goal of conducting cutting edge research within the broad HSCB domain while simultaneously needing to develop technologies that can transition to COCOMs and programs of record, like DCGS-A. This isn't easy, but we have developed strategies that will help us achieve early results as well as long term goals. We have two new Broad Agency Announcements (BAAs) in progress, we have existing and emerging research programs that support our goals, and we have begun identifying transition program / partner opportunities that will help us focus our investment. The program's ultimate goal is to put model-based tools in the hands of DoD personnel across the defense community supporting intelligence analysis, operations analysis and decision-making, training, and joint experimentation. Our intention is that the HSCB program results will make significant contributions to each of these communities.

Q: If you had a wishlist for the program, which three items would top that list?

Schmorrow: I would like to see revolutionary results in the HSCB domain. I would like the program to discover the "game-changing" technology that will lead us to achieve our long term goals. Most importantly, I would like to successfully transition tools to our warfighters that assist them in making tactical and strategic decisions in the irregular warfare environment. We are not talking about minor improvements, we need major advances.

Q: How do you envision the HSCB program impacting the broader DoD community?

Schmorrow: It's important to note that the HSCB program is not the only "player" in this area. There are a number of other programs, including others sponsored by the DoD, that are supporting R&D in socio-cultural behavior. However, the HSCB program represents a significant concentration of DoD resources in this area; my objective would be to have this program collaborate with other efforts where it makes sense, and of course leverage and coordinate with any other projects where it's relevant to do so. The OSD HSCB program should help serve as a venue for development of good ideas, and a mechanism for sharing and leveraging those ideas to the benefit of the entire community.

Q: Do you have any advice to offer current program performers and/ or those who are interested in submitting proposals in response to HSCB BAAs?

Schmorrow: Submit great ideas to the HSCB BAAs at ONR and / or CTTSO. If you have ideas that fall outside of the scope of either of those two BAAs, you can submit the proposal via the ONR Long Range S&T BAA that is open all year long. If anyone requires additional information, please contact me or Dr. Ivy Estabrooke.

HSCB WORKING GROUPS

The HSCB program has five Working Groups (WGs), an HSCB Users Group, and a Senior Technical Experts Group. These groups provide technical guidance and advice to those line organizations that are funded to execute program activities. Each of these groups has provided a description of their charters and their recent activities - these updates will give you some insight into the mechanics of the OSD HSCB modeling program.

HSCB Users Group

Chair: Mr. Jim Bexfield
(OSD Program Analysis and Evaluation)

The DoD Irregular Warfare Modeling and Simulation Senior Coordinating Group serves as the HSCB User Community Advisory Group (UCAG) for the purpose of providing input to the HSCB program on the utility and direction of current and future HSCB research efforts. The group consists of senior members (SES / GO / FO-level) of the DoD analytic and scientific communities. The group meets at least twice per year as the HSCB UCAG and charters such subordinate technical groups as are necessary to provide advice on HSCB research direction and to serve, when appropriate, as peer reviewers for HSCB program solicitations. In addition, the group produces notional Broad Agency Announcement (BAA) requirements and provides transition and validation advice through participation in semi-annual meetings. The group considers user inputs from the U.S. Combatant Commands' Integrated Priority Lists and relevant CONOPS and Joint Capabilities Integration and Development Systems (JCIDS) documents when producing requirements. The group's output allows the HSCB program to more effectively select technology, match it to current and emerging programs of record, and then transition HSCB technology to those programs.

Senior Technical Experts Group

Chair: Dr. Sue Numrich (Institute for Defense Analysis)

The Senior Technical Experts Group (S-TEG) is composed of government and Federally Funded Research and Development Center (FFRDC) personnel. It conducts the analyses and assessments necessary to assist HSCB management in ensuring that HSCB research directions and analytic architectures are theoretically and technically appropriate, effectively targeted, consistent with DoD and industry standards and best practices, and directed toward the most effective transition partners.

The role of the S-TEG complements that of the working groups. Members of the S-TEG serve on each working group to maintain clear understanding of the progress of the HSCB program. While the working groups focus primarily on the day-to-day conduct of the HSCB program, the S-TEG views the HSCB program in the larger context of the overall scientific and technical community, investments by DoD and other government agencies in HSCB-related efforts, and issues arising from the integration of HSCB capability into DoD and inter-agency practices and missions. To this end, the S-TEG conducts detailed analyses to support the goals of the program. These analyses may cover such topics as the role of standards, the appropriate involvement of HSCB in development of databases and data structures, perceived gaps in HSCB capability, mission-oriented requirements for HSCB understanding and tools, and portfolio management in the context of the larger S&T community.

The inaugural meeting of the S-TEG took place on May 7 and featured a technical introduction to the COMPOEX integration framework. The S-TEG will meet in person four times each year and virtually in the interim.

As part of the S-TEG, the National Defense University (NDU) hosted its second workshop exploring HSCB capability gaps experienced by the operational user. The workshop involved multiple combatant commands in dialogue with subject matter experts in human and socio-cultural behavior and modeling.

Data and Scenario Working Group

Chair: Mr. Joe Watts (Army Geospatial Center)
Deputy Chair: Dr. Lynette Hirschman (MITRE)

The charter of the Data and Scenario Working Group (DSWG) calls for the group to coordinate data strategies and scenarios that support the demonstration, assessment, and transition of the participating HSCB projects, e.g., Technical Performance Evaluations, Integration Demonstrations, Operational Feasibility Demonstrations, and Military Exercises. The DSWG oversees the realization of these data and scenario strategies in conjunction with Integrated Product Team (IPT) line organizations and related working groups. The working group is currently collecting scenarios with their associated use cases, vignettes, concepts of operations, tactics, techniques, and procedures, and data. The goal is to provide the context needed to assess the HSCB participants in coordination with the Assessment Working Group.

The DSWG is approaching the task from three perspectives: needs and capabilities of performers; availability of data sets; and HSCB requirements and insertion opportunities. From the performer perspective, the group conducted an initial survey of performers' data needs and is following up on this during the initial assessment meetings as additional performers come under contract. To determine what kinds of data are available, the DWG has been identifying and cataloging available (unclassified) scenarios and data sets. To address program requirements, the group is developing a roadmap for the data and scenario needs over the life of the HSCB program. This roadmap will outline a path leading from technology demonstrations of individual projects toward integration experiments, and finally reaching operational feasibility experiments and transition to programs of record.

Assessment Working Group

Chair: Dr. Ivy Estabrooke (Office of Naval Research)
Deputy Chairs: Dr. Jill Egeth (MITRE); Dr. Gary Klein (MITRE)

The Assessment Working Group (AWG) is chartered to establish

frameworks for the assessment of projects receiving funding from the HSCB program. Frameworks will be appropriate for the breadth of project types, maturity of research, and target operational environment, and will assure that project deliverables will be suitable for operational use. While the frameworks will identify the critical criteria that need to be assessed at each step of assessment, it will be the responsibility of the organization conducting the assessments to identify appropriate measures and methods and additional expertise required for assessment. The Assessment Working Group will work collaboratively with the other working groups to assure unified results and transitionable products.

AWG members include representatives from each constituent organization of the HSCB Integrated Product Team. The group meets several times each month to address issues related to the development of assessment frameworks, protocols, and activities for all projects funded by the HSCB program. Recent activities include development of several upcoming assessment events:

- A Technical Assessment used in the preliminary evaluation of each funded project
- A Technical Performance Evaluation (TPE) assessment event, scheduled for a subset of HSCB performers in late July 2009
- A Technical Demonstration and Presentation (TDP) event, in which all performers will participate on 4 August 2009
- An Integration Demonstration (ID), scheduled for a subset of HSCB performers in October 2009

Training Working Group

Chair: Dr. Allison Abbe (Army Research Institute)

The Training Working Group (TWG) supports the HSCB program by providing input on learning and performance objectives, assessment, and transition of training in the HSCB domain. The TWG includes representatives from the U.S. Army Research Institute, the Army Training and Doctrine Command, the Army Geospatial Center, CTTSO, the Marine Corps Center for Advanced Operational Culture Learning, and the Naval Air Warfare Command – Training Systems Division.

Training is both an area of direct focus for the program and an indirect aspect of other topic areas, in that HSCB planning and analysis tools must equip the user with the knowledge and skills needed to use the tools effectively. The goals of the TWG are:

- To provide technical guidance on the development of training technologies that enhance HSCB learning objectives;
- To help HSCB increase effectiveness and reduce redundancies of training-related efforts both within the HSCB program and across other funding sources.
- To provide guidance on establishing training content validity and evaluating training impact;
- To identify and engage potential transition partners and user groups for training tools.

Cultural training typically focuses either on knowledge and skills needed for any foreign culture, such as perspective taking (culture-general), or on knowledge about a specific country, region, or culture (culture-specific). While specialists such as Foreign Area Officers and Special Forces develop in-depth expertise about specific regions and cultures, these specialists also benefit from acquiring knowledge and skills that transfer from one culture to another. Similarly, while general-purpose forces must be equipped with general knowledge and skills to support deployment anywhere in the world, they need specific knowledge of the cultures they will encounter in deployment.

To address the training needs of both the specialist and generalist populations, the TWG provides input to the IPT and interacts collaboratively with the Assessment and Transition and User Working Groups.

Architecture and Standards Working Group (ASWG)

Chair: Mr. Richard Pei (CERDEC I2WD)
Deputy Chair: Ms. Kathleen Lossau (Potomac Fusion, Inc.)

The Architecture and Standards Working Group (ASWG) supports the overall vision of the HSCB program—to develop "human terrain" forecasting and modeling approaches by supporting implementation of a conceptual HSCB architecture. The ASWG facilitates research, development, test, evaluation and assessment of HSCB models, tools, and products for DoD users. The ASWG defines, recommends, and controls the service interface agreements, interfaces, and data modeling products. The ASWG oversees and provides guidance to technical efforts under the HSCB Program aimed at implementing and integrating the HSCB architecture and standards.

The ASWG coordinates its activities with two other HSCB working groups: the Data and Scenario Working Group (DSWG) and the Transition and User Working Group (TUWG). The DSWG provides relevant data and scenario guidance. The TUWG provides prioritized user requirements for developing and defining specific components of the HSCB architecture. When necessary, the ASWG forwards issues and recommendations to the IPT and Program Director for decisions.

The ASWG addresses several challenges. It must develop the architecture and standards that support the full spectrum of HSCB RDT&E, assessment, and transition initiatives. It must also develop a common modeling framework that supports all phases of HSCB RDT&E. Several very different modeling frameworks already exist or are being developed under the HSCB Program by multiple organizations. In addition, the HSCB Program must support missions at multiple levels—strategic, operational, and tactical – and for different applications (e.g., intelligence analysis, operations planning). User requirements differ at each level. As such, the objective HSCB architecture must be flexible within the diverse HSCB mission space.

CONTINUED ON PAGE 8

HSCB WORKING GROUPS

Since the establishment of the ASWG in March 2009, the group has completed and finalized its charter, vision, goals, and objectives. It has also identified and embarked on accomplishing key tasks toward identifying architectural requirements. The ASWG will generate a Road Map to support the design, development, implementation and transition of HSCB technologies, models, and tools throughout the DoD.

Transition and User Working Group (TUWG)

Chair: Dr. James Frank (CTTSO)
Deputy Chair: Mr. Stu Schwark (MITRE)

The Transition and User Working Group (TUWG) has continued to pursue its mission of linking HSCB technologies with current and emerging programs of record and select COCOMs and other organizations. The TUWG's ongoing efforts to identify transition paths for HSCB products and analyses to the various user communities have recently facilitated connections to strategic, operational, and tactical programs and are in the process of identifying more.

In the past quarter the TUWG has developed projects and partnerships with several transition partners in an effort to transition near term HSCB technologies to those that need them. For example:

- The TUWG has initiated a joint program with the Army TRADOC to support creation of a campaign planning toolset (Athena 1.0.) as part of a series of models being developed for training and decision support by TRADOC. TRADOC has initiated discussions on expanding its cooperation with the HSCB program. Success will allow multiple products to be produced for the wide range of users represented by the HSCB program. In addition, HSCB is funding a program at the John F. Kennedy Special Warfare Center and School (JFKSWCS) at Ft. Bragg to supply data and analyses for this effort.
- The TUWG has initiated a joint project with Charles River Associates and the Joint Military Information Support Command (JMISC) to make Charles River's doctrine model, SAVANT, more fully usable to JMISC and dockable with HSCB models relevant to other HSCB efforts. The TUWG also plans to transfer the SAVANT model to the Army's Geospatial Center (AGC) at Ft. Belvoir as part of the HSCB testbed.
- The TUWG has initiated a project with BBN to automatically extract and populate data templates in support of U.S. Pacific Command modeling efforts.

In addition, under the lead of the HSCB IPT, the TUWG is continuing to perform outreach to some of the COCOMs, including AFRICOM and EUCOM.

CONTINUED FROM PAGE 7

VIP MEETINGS

HSCB Executive IPT Member Mr. Joe Watts meets with Mr. Robert Burkhardt, Director of the U.S. Army Geospatial Center

Mr. Joe Watts, the HSCB program manager at the Army Geospatial Center (AGC) and his team met with Mr. Robert Burkhardt, the Army Geospatial Information Officer (GIO) and Director of AGC. The group discussed the role of the Army GIO's standards, policies, and architectural guidance in the context of the HSCB system development and integration work scheduled for FY10. They also addressed leveraging the potential of AGC's Joint Geospatial Enterprise Services testbed in support of the HSCB program.

HSCB Executive IPT Member Mr. Joe Watts meets with Mr. Stuart Haynes, Director UK MOD Defence Geographic Centre

Mr. Joe Watts, the HSCB program manager at AGC, and his team met with Mr. Stuart Haynes, Director of the United Kingdom MOD Defence Geographic Centre. The AGC team provided a scenario-based demonstration of capabilities developed under FY08 HSCB funding, including end-to-end system architectures, socio-cultural data modeling, spatial analysis, and mobile data collection. Follow-on meetings and workshops will address, in part, the relevance of the HSCB program to UK Defence planning, operations and training.

HSCB Executive IPT Member Mr. Barry Costa meets with USSOCOM IATF, J2, and J5 organizations

Mr. Barry Costa met with members of the USSOCOM Interagency Task Force (IATF), J2, and J5 organizations to brief them on the HSCB program. Meeting participants included: COL Paul Huxhold, J5; CDR Mark Russell, IATF; Christina Saylor, J23 CT-PAS / Human Terrain Cell; Renier Cruz, J23 (Deputy); and Tim Kennedy (IATF). Attendees were interested in the types of technologies being developed under the auspices of the HSCB program and will be kept up-to-date on program activities.

The U.S. Army Geospatial Center's Role in the HSCB Modeling Program

The U.S. Army Geospatial Center (AGC) coordinates, integrates, and synchronizes geospatial information requirements and standards across the Army; develops and fields geospatial-enterprise enabled systems to the Army and the Department of Defense; and provides direct geospatial support and products to warfighters. AGC is led by Robert Burkhardt, the Army's Geospatial Information Officer and the Deputy Topographer of the Army. AGC reports directly to the Deputy Commanding General, U.S. Army Corps of Engineers (USACE), and integrates Army Geospatial Enterprise tasking orders from the Geospatial Governance Board (GGB), a Headquarters Department of Army 3-Star decision-making body designated to address Army Geospatial Enterprise issues affecting current and future forces, the Army Acquisition Executive, G2 and G3.

The AGC has two strategic goals:

- Develop and exploit robust partnerships that provide for a seamless flow of geospatial data and information among U.S. ground forces at all echelons, the Intelligence Community, and the Defense Information Systems Agency.
- Through standardized geospatial information collection, management, analysis, visualization and dissemination, promulgate a Common Operational Picture that enables Army operations and unified battle command, and achieves shared situational awareness between U.S. and coalition elements (see Figure 1).

AGC has been a leader in the human dynamics arena since 2006. Using customer funding, AGC served in the past as technical lead for both the Human Terrain System (HTS) and the Mapping the Human Terrain Joint Capability Technology Demonstration (MAP-HT JCTD). AGC currently performs internally-funded human dynamics research and development under the GEOINT Exploitation in Man-made Environments: Nations to Insurgents (GEMENI) and Joint Geospatial Enterprise Service (JGES) programs.

The cornerstone of AGC's leadership role in human dynamics science and technology activities is support to OSD DDR&E's Human Social Culture Behavior Modeling (HSCB) Program. The AGC Project Manager for HSCB, Joseph Watts, serves on the HSCB Integrated Product Team (IPT), which is responsible for the strategic direction of the program and associated technology investment, assessment, and transition strategies. He chairs the project's Data and Scenario Working Group and provides technical support to the Office of Naval Research (ONR) and the Counter Terrorism Technical Support Office (CTTSO) in Broad Agency Announcement evaluation, selection, and project oversight. Mr. Watts also manages a government-industry team that currently performs the following technical functions for the HSCB program:

- Carry out test and assessment of HSCB technologies and capabilities in a government-sponsored testbed
- Develop a socio-cultural data model
- Establish a cultural web mapping portal

AGC sees several growth opportunities for its involvement in the HSCB program. One centers on integrating developing data modeling and cultural web mapping capabilities into future HSCB system architectures. AGC will perform this work in collaboration with other HSCB government and industry partners, which fundamentally reflects increasing knowledge of concepts of operations, work flows, and specific techniques, tactics, and procedures. A second area builds on the AGC mission and involves hybrid analysis, modeling, and visualization associated with socio-cultural and geospatial data. AGC will satisfy explicit HSCB geospatial requirements under this initiative. Finally, as the HSCB program evolves towards developing technology that improves human dynamics understanding, which can be transitioned DoD user communities in intelligence analysis, operations analysis / planning, training, and joint experimentation, AGC will play a role based on its long history of technical support to the acquisition community. AGC activities will focus specifically on transitioning this technology to U.S. Special Operations Command (USSOCOM) programs of record.

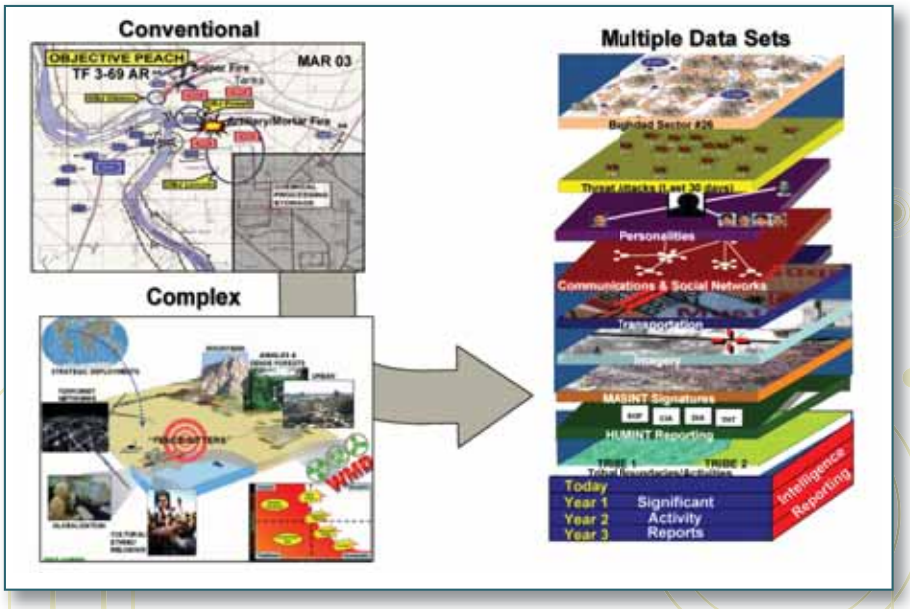


Figure 1. Common Operational Picture enabled by the Army Geospatial Enterprise

The I2WD HSCB Testbed

By Richard Pei and Martin Yuen, I2WD

Intelligence and Information Warfare Directorate's role in HSCB Program

The U.S. Army RDECOM CERDEC Intelligence and Information Warfare Directorate (I2WD) at Fort Monmouth, NJ, is providing the HSCB program with a testbed for the purpose of evaluating how HSCB and PMESII models can be integrated with each other and how they can support military operations and the end users. In this way, the testbed will support and facilitate transition of HSCB program products to Programs of Record (PORs) and other field Users, including COCOMs.

I2WD is an Army research and development laboratory dedicated to identification, development, evaluation, tailoring and insertion of emerging intelligence and information warfare technologies for transition into selected operational systems. I2WD's role represents an outgrowth of its activities as the systems integrator and emerging concepts lead for the Distributed Common Ground System – Army (DCGS-A) program and its related technology initiatives in the human domain arena. I2WD has pioneered the service-based approach to address the need for net-centric integration requirements and advanced technology insertion in support of DoD net-centric concepts. As a result, DCGS-A was the first application of the DCGS Information Backbone (DIB) for federated data sharing and collaboration.

I2WD runs the DCGS-A Systems Integration Laboratory (SIL) facility where all software components of DCGS-A are evaluated, assessed, and tested prior to fielding. Currently the DCGS-A SIL is a Government infrastructure for hosting and supporting development, integration and testing of products and services for intelligence assessment and analysis.

Vision for the I2WD HSCB Testbed

In establishing the HSCB Testbed at I2WD, the HSCB Program took a significant step toward facilitating the transition of HSCB models and tools to the Intelligence Enterprise by aligning to an Intelligence POR for HSCB applications and building an end-to-end HSCB service. The I2WD HSCB Testbed will conduct the Integration Demonstrations (ID), the Operational Feasibility Demonstrations (OFD), and associated efforts in support of transitioning HSCB products to field Users for a variety of assessment events, to include Limited Objective Evaluations (LOE), Field Exercises, etc. The Testbed will facilitate the transition of proven HSCB technologies and models to PORs throughout DoD, with initial focus on transitioning to the DCGS and Intelligence domain systems.

To establish the I2WD HSCB Testbed, we will leverage on-going developments in Service Oriented Architecture (SOA) services and human domain intelligence systems, and work with the HSCB research and development communities to further the development and transition of HSCB tools and applications to the DoD Users. The activities in this emerging area will extend non-traditional warfare planning, analysis, and training to the Warfighters.

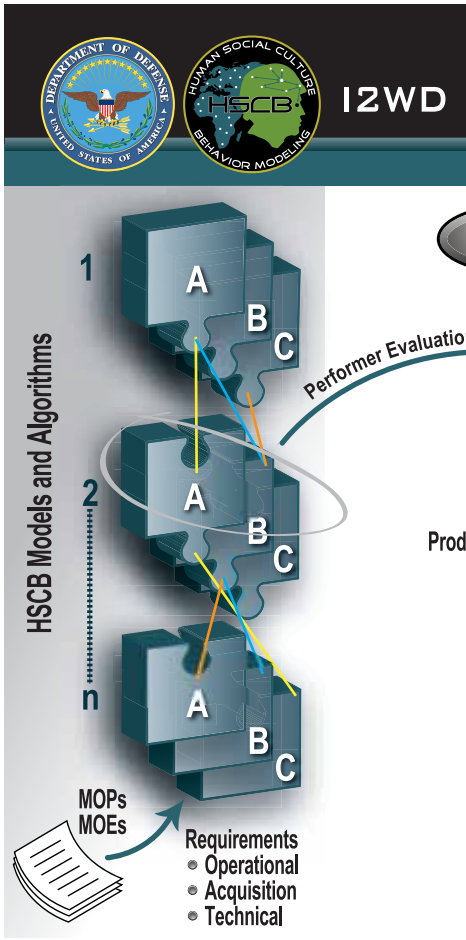
For the User and Warfighter operational domain, the testbed provides a venue for Warfighters – from senior leaders to military analysts, planners, and others – to witness concepts and "kick the tires." In this way, the testbed will help to demonstrate new concepts and solutions. This engagement with both leadership and users will foster understanding of assumptions and limitations, as well as discovery of novel utilities of model and tools.

Current Activities

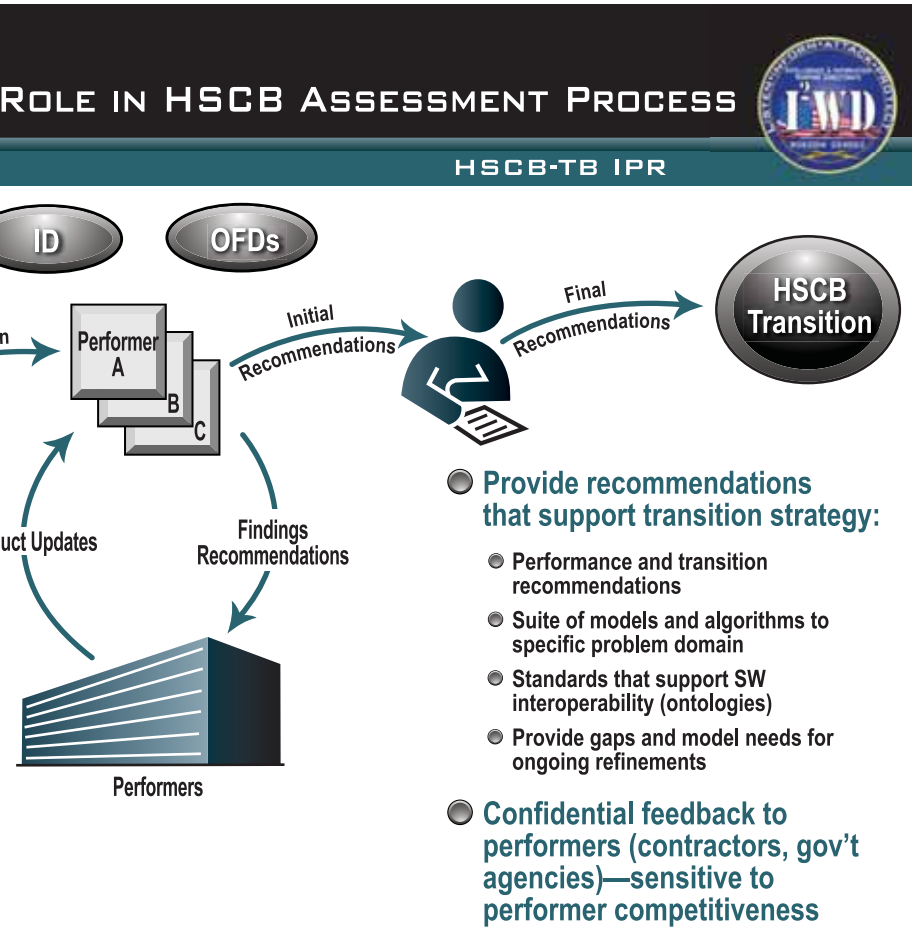
The major activities at I2WD consist of:

1. Prepare, plan and conduct the FY09 Integration Demonstration

As the lead for executing the Integration Demonstrations (IDs) and Operational Feasibility Demonstrations (OFDs) for the HSCB program, I2WD will implement and integrate proven theories and models of social science and maintain an integrated DIME / PMESII spectrum representation for HSCB modeling assessment purposes. Figure 1 depicts I2WD's role in the HSCB assessment process.



HSCB is multi-disciplinary and no single tool or model can possibly cover the entire spectrum of HSCB and PMESII, given specific regional and cultural interests. The Integration Demonstration events will showcase integrating models into a functional capability for solving HSCB problems in all mission domains. I2WD will integrate and test different suite of models, tools and applications to help define the methodology and establish processes to bring a balanced collection of models into the testbed. After models have been integrated and assessed under the ID process, depending on the outcome of the ID and the maturity level of the



models, they will be selected to be part of an OFD at I2WD, the next phase of the HSCB Assessment Process, where User Jury personnel will be involved in evaluating the military utility of the models and provide recommendations for transition strategy.

For FY09, I2WD is integrating three very distinct, disparate classes of models into the testbed to evaluate the methodology and process necessary for incorporation into a common testbed environment. First, we are leveraging the modeling framework of the Conflict Modeling, Planning and Outcome Experimentation (COMPOEX) developed by DARPA as a key component of the testbed architecture. COMPOEX contains a suite of PMESII models with a state vector mechanism for data level exchanges and permits quick insertion/integration of new models into the environment. In addition, we are incorporating the University of Pennsylvania's PMFserv suite of models and Sentia's Senturion models, which contain representations of individual and group influences, operating in a more micro scale, into the PMESII macro factors within the COMPOEX environment.

Our primary objective for the FY09 ID, to be conducted in October 2009, is to capture lessons learned and feed them back into the HSCB communities to guide development and integration of models into the testbed for future Integration Demonstrations and Operational Feasibility Demonstrations.

2. Develop an HSCB modeling framework and testbed infrastructure

The ability to select, integrate and test a suite of models for a given HSCB application domain can best be conducted using a common architecture framework and common set of standards. To enable the ID and OFD testing processes, I2WD is designing and implementing a testbed architecture / framework called the HSCB PMESII Modeling Framework (HPMF). It is based on the SOA architecture to provide the stepping stone towards end-to-end service development and implementation for all HSCB mission areas in the coming years. I2WD will share with the community and incorporate other relevant frameworks for HSCB modeling and applications development into the HPMF.

3. Work closely with the HSCB community to ensure coordination in assessment, architecture and standards, data and scenarios, and training.

The HSCB program spans a spectrum of R&D development and provides a full transition cycle from early research to system transition. I2WD is fully engaged in ensuring coordinated execution of the various activities within the HSCB program. It leads the Architecture and Standards Working Group, and is an active member of the Data and Scenario Working Group, Assessment Working Group, Transition Working Group, and Training Working Group.

Challenges

Implementing and executing the HPMF architecture poses significant challenges. They include issues in data collection and data normalization; the need for subject matter experts (SMEs) in model construction and proper interpretation of modeling results; inefficiencies in tuning data into the models, and requirements for HSCB Measures of Effectiveness (MOEs) and Measures of Performances (MOPs). HSCB models have highly specific data requirements based on the recommendations of modeling SMEs. The range of data collection to support these requirements encompasses an extremely wide spectrum and can span multiple disciplines and levels of granularity.

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SPOTLIGHT KATHLEEN M. CARLEY, PH.D.

A Dynamic Socio-Cultural Network Lens

Dr. Kathleen M. Carley is a Professor in the Institute for Software Research, School of Computer Science at Carnegie Mellon University. She is the director of the center for Computational Analysis of Social and Organizational Systems (CASOS) (http://www.casos.cs.cmu.edu/), a university-wide interdisciplinary center with over 25 members, both students and research staff, that combines computer science and social science to address real world applied problems. She also holds courtesy appointments in the Engineering and Public Policy and the Social and Decision Sciences Departments, and in the H.J. Heinz III College at CMU. Dr. Carley did her undergraduate work at the Massachusetts Institute of Technology and received her Ph.D. from Harvard in Mathematical Sociology. She then joined CMU in 1984. She has published over 200 articles and co-authored three books related to dynamic network analysis, social networks, and multi-agent modeling of complex socio-technical systems. She has served on multiple National Academy of Science committees on modeling and the military and was a task force member for a defense science board in this area.

"THERE ARE THREE KEYS TO PREDICTIVE SOCIO-CULTURAL MODELING: INSTANTIATE THE MODEL WITH REAL DATA, FOCUS ON FUNDAMENTAL SOCIAL-COGNITIVE NETWORK BEHAVIORS THAT LINK WHAT PEOPLE AND GROUPS KNOW, BELIEVE AND DO TO WHO THEY KNOW AND INTERACT WITH; AND DON'T TRY TO MAKE DETAILED HIGH FIDELITY PREDICTIONS PAST THE POINT WHERE NEW TECHNOLOGIES ARE CHANGING THE BASES FOR SOCIAL INTERACTION. AND, ALWAYS REMEMBER—IT IS NOT ABOUT MAKING POINT PREDICTIONS; IT'S ABOUT UNDERSTANDING THE SET OF FUTURE POSSIBILITIES!"

Today Dr. Carley is known for dynamic network analysis. Her earliest models, however, were for estimating appropriate escalation of weapon stockpiles—nuclear and conventional. She rapidly moved to socio-cognitive modeling to address questions of group formation and dissolution. Her Ph.D. thesis was on consensus construction; using network models of social and knowledge networks, she demonstrated that groups form consensus by individuals in dominant social network positions defining arguments in terms of abstract concepts with far reach but little detailed content (e.g., the use of stereotypes). She went to Carnegie Mellon to work with Allen Newell and developed the first multi-agent Soar system. This led to *the model social agent* and the Social Turing test, both of which are fundamental to the assessment of socio-cognitive models. Work for the Office of Naval Research led to the development of metrics for identifying emergent leaders, demonstrated that designing groups for optimal performance could impede adaptation, and led to new fuzzy grouping and trail algorithms for assessing covert networks. Work for the Army Research Lab led to the development of techniques for identifying patterns in networks, assessing adaptation, and basic change detection techniques. Current work with the Army Research Office and ERDC-TEC is leading to a geo-spatial- enabled social network analysis capability and the ability to assess information gain/loss as the level of resolution used in inferring networks increases/decreases.

Dr Carley's research combines cognitive science, dynamic social network science, social/organization science and computer science to address complex socio-technical issues from an interdisciplinary perspective. She and the CASOS team have developed infrastructure tools for analyzing large scale dynamic networks, some of which are in current use in various law enforcement units, government agencies, the military, and various corporations. The infrastructure tools include: 1) ORA, a statistical toolkit for analyzing and visualizing longitudinal complex multi-level socio-cultural networks (dynamic meta-networks), generating network models, and assessing the impact of various courses of action on the socio-cultural networks. ORA has been used in many different contexts to meet many needs such as: identification of emergent leaders, links between gangs, key locations, critical tasks, and critical resources, assessment of vulnerabilities in terror cells, potential shifts in international alliances, organizational weaknesses in health service organizations, and changes in hot topics being discussed, and examination of the impact of attrition on group performance and changes in beliefs; 2)AutoMap, a text-mining system for extracting semantic networks from texts and then cross-classifying the information using an organizational ontology into the underlying social, knowledge, belief, resource and task networks. AutoMap has been used to extract information on the North Korean political elite, Hamas, al-Qaeda, and activities in the Sudan from open source texts, group performance from email for various groups such as Enron, and scientific communities from journal papers and conference proceedings; and 3) DyNetML, an xml interchange language for representing dynamic meta-network data. DyNetML supports interoperability among all CASOS tools, and with non CASOS tools.

As part of the HSCB work, Dr. Carley and the CASOS team are componentizing these tools and web enabling key components of AutoMap and ORA. In addition, as part of the HSCB work, she is working with software engineering colleague, Prof. David

Garlan, to develop SORASCS, a service oriented architecture to link HSCB tools and models from a network perspective together and to support the creation, use, and sharing of data to model workflows in support of HSCB analysis and modeling by analysts. The SORASCS system, beta-version to be released in July, is designed to support both thick and thin client components, data source heterogeneity, flexible configuration of workflows, high performance processing, traceability, security and privacy, and what-if reasoning.

"BY USING A DYNAMIC NETWORK ANALYSIS LENS WE CAN AUTO-GENERATE INPUT FOR A WIDE RANGE OF SOCIO-CULTURAL MODELS THEREBY SUPPORTING MODEL RE-USE."

Her HSCB models meld multi-agent simulation technology with socio-cognitive network dynamics and empirical data to enable realistic modeling of complex socio-technical systems where people, groups, their ideas, beliefs, and activities co-evolve. Examples of the large-scale multi-agent network models she and the CASOS group have developed include: 1) BioWar, a city-scale model for understanding the spread of disease and illness due to natural epidemics, chemical spills, and weaponized biological attacks; 2) DyNet, a model of the change in covert networks, naturally and in response to attacks, under varying levels of information uncertainty; and 3) Construct, a model of social and cultural change, belief and information diffusion, and group dynamics where the potential impact of diverse types of information and targeting operations can be examined under diverse media, cultural, and social scenarios.

Dr. Carley and the CASOS center are currently involved in multiple HSCB projects with a large number of collaborators. These projects are synergistic and collectively support the development of an end-to-end system that enables moving from raw-data to model to gaming analysis. A key goal is to facilitate model re-use and data-driven modeling, so that HSCB models can be applied in evolving situations and novel contexts to support planning and course of action analysis. As part of this process, HSCB information is extracted from texts such as news articles and ethnographic field notes, and captured as spatio-temporal social, knowledge, belief, resource and task networks. These networks are then assessed and key actors, groups, locations, emergent leaders, emergent patterns of behavior, and changes over time in roles and the networks are identified. In one project, the CASOS team serves as a reach-back cell, processing field notes, and identifying key actors, groups etc. in the extracted socio-cultural networks, and then feeding this information back to field researchers to facilitate rapid assessment of the human terrain. In another project, this information is then sent to a simulation tool to assess the potential impact on beliefs of various courses of action, such as sending information to a particular group or removing a specific opinion leader. In another project these same tools are used in conjunction with a serious game to provide assessments of the teams playing the games and to provide a population model as background for the game.

The HSCB work will benefit from, and be able to leverage, other research currently being pursued by Dr. Carley and the CASOS team. Research that can be leveraged includes: research to develop new validation techniques and criteria for socio-cultural models; new techniques and theories designed to support a rapid ethnographic retrieval system for rapid semi-automated extraction of cultural factors from texts, similar to the type of factors currently extracted from the human relations area files using laborious hand coding techniques, and the retrieval of such cultural information to inform models of adaptive and deceptive adversaries; and, new models that use cultural norms, geo-spatial information and attributes of the communication media to infer missing information for social, knowledge, belief and resource networks.

Dr. Carley can be reached at kathleen.carley@cs.cmu.edu. Key websites include: http://www.casos.cs.cmu.edu/bios/carley/carley.html and http://www.casos.cs.cmu.edu/. She invites those interested to visit the CASOS center at CMU in Pittsburgh, PA.

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Using the site

You don't need to be registered to browse the site, but you will need to register if you are interested in viewing some of the full-text DTIC documents. All HSCB program awardees, as recipients of government funding, are eligible for registration. When you initiate the registration process, have your HSCB contract information and your program manager's name and contact information nearby. Here are some important DTIC links that will get you started:

Visit the site

http://www.dtic.mil/dtic/index.html

Register

http://www.dtic.mil/dtic/registration/

Viewing recent HSCB-related reports

Here is a sampling of technical reports with relevance to the HSCB program. While you wait for your DTIC registration to process, you can use DTIC's "Handle Service," which allows you to access reports for which you already have identifying information, such as title or AD number, to search for and view these reports.

Handle Service

http://apps.dtic.mil/wobin/WebObjects/Handles

Selected recent reports

Title: *Closing the Gap: Measuring the Social Identity of Terrorists*
AD Number: *ADA488713*
Corporate Author: *Naval Postgraduate School*

Title: *Framing Cultural Attributes for Human Representation in Military Training and Simulations*
AD Number: *ADA488626*
Corporate Author: *Naval Postgraduate School*

Title: *Do the Metrics Make the Mission?*
AD Number: *ADA488870*
Corporate Author: *Naval Postgraduate School*

Title: *The Human Terrain System: Achieving a Competitive Advantage Through Enhanced "Population-Centric" Knowledge Flows*
AD Number: *ADA488992*
Corporate Author: *Naval Postgraduate School*

Title: *Detecting Change in Human Social Behavior Simulation*
AD Number: *ADA488527*
Corporate Author: *Carnegie Mellon University*

Title: *Measuring Progress in Conflict Environments (MPICE) - A Metrics Framework for Assessing Conflict Transformation and Stabilization. Version 1.0*
AD Number: *ADA488249*
Corporate Author: *Army Corps of Engineers*

Title: *Rosetta-II Project: Measuring National Differences in Cognition*
AD Number: *ADA489594*
Corporate Author: *Wright State University, Dept. of Psychology*

Title: *The Impact of Educational Interventions on Real & Stylized Cities*
AD Number: *ADA488399*
Corporate Author: *Carnegie Mellon University*

Title: *Human, Social, Cultural Behavior (HSCB) Modeling Workshop I: Characterizing the Capability Needs for HSCB Modeling*
AD Number: *ADA489736*
Corporate Author: *National Defense University*

Title: *Modeling PMESII Factors to Support Strategic Education*
AD Number: *ADA490061*
Corporate Author: *Army War College, Center for Strategic Leadership*

Title: *Computational Models of Group Dynamics for National and International Security Applications*
AD Number: *ADA489568*
Corporate Author: *Defense Threat Reduction Agency*

Title: *A Case Study in Integrated PMESII Modeling and Simulation*
AD Number: *ADA490074*
Corporate Author: *BAE Systems Advanced Information Technologies*

Title: *Hard Hearts and Open Minds? Governance, Identity, and Counterinsurgency Strategy*
AD Number: *ADA491404*
Corporate Author: *Institute for Defense Analysis*

Title: *Refocusing Intelligence Support to Counterinsurgency Operations*
AD Number: *ADA491196*
Corporate Author: *Marine Corps Command and Staff College*

Title: *Social Network Change Detection*
AD Number: *ADA488427*
Corporate Author: *Carnegie Mellon University, School of Computer Science*

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FEATURE ARTICLE

Title: *Virtual Training -- Keeping It Real*
AD Number: *ADA491006*
Corporate Author: *Army Research Development and Engineering Command, Simulation Technology Center*

Title: *Enhancing Technology-Mediated Communication: Tools, Analyses, and Predictive Models*
AD Number: *ADA488487*
Corporate Author: *Carnegie Mellon University, Human Computer and Interaction Institute*

Title: *Analyzing Irregular Warfare (IW) using a Narrative Approach*
AD Number: *ADA488576*
Corporate Author: *Marine Corps Combat Development and Command*

Title: *Social Network Monitoring of Al-Qaeda*
AD Number: *ADA490103*
Corporate Author: *West Point Military Academy*

Title: *Bayesian Mixed-Membership Models of Complex and Evolving Networks*
AD Number: *ADA488405*
Corporate Author: *Carnegie Mellon University, School of Computer Science*

Title: *Application of Confidence Intervals to Text-Based Social Network Construction*
AD Number: *ADA490625*
Corporate Author: *West Point Military Academy*

To meet these and many other unique and difficult challenges, I2WD will use the testbed to enable the HSCB research development test and evaluation (RDT&E) community and the Warfighter/User communities to define, debate, and develop solutions for demonstration and assessment. The goal is to bridge the HSCB RDT&E and User communities and provide a clear, systematic and facilitated transition path for HSCB technologies and products to help the users in executing the many difficult tasks that require in-depth understanding of the HSCB and PMESII environment in which they must operate worldwide.

Summary

The recurring Integration Demonstrations to be conducted by the I2WD HSCB Testbed will be mission and problem specific, focused on addressing the various HSCB domains of interest, to include Intelligence Analysis, Influence Operations, Operations Planning, Training, and Experimentation and Exercises. I2WD works closely with ONR and CTTSO on HSCB BAA topic development and helps to steer HSCB technology development efforts. I2WD also coordinates with the Army Geospatial Center on Technical Performance Evaluation events for initial technology assessment of all HSCB modeling and application development efforts prior to bringing performers to the I2WD HSCB Testbed for ID and OFD assessment events.

The I2WD HSCB Testbed will offer an independent environment that permits "neutral" testing and assessment of model-of-models interactions and functionality. It will do so through the implementation of a realistic synthetic environment enabled by a flexible, composable and pluggable SOA based on the HPMF. The testbed, with the HPMF architecture, will significantly enhance and facilitate the assessment of HSCB models and their application utilities in each Integrated Demonstration cycle for the identified HSCB mission areas. I2WD's experience in SOA development of end-to-end services has led to great strides in meeting the objective of bringing silos of HSCB and non-HSCB disciplines and models into an integrated environment in the coming years.

CALENDAR OF UPCOMING CONFERENCES AND WORKSHOPS

Date	Event	Location	Sponser	Website
July 6–8, 2009	20th IASTED International Conference on Modeling and Simulation	Banff, Alberta, Canada	IASTED	**www.iasted.org**
July 13–16, 2009	2009 Joint SISO/SCS European Multi-Conference	Istanbul, Turkey	SISO and SCS	**www.sisostds.org** **www.scs.org**
August 5–7, 2009	OSD Human Social Culture Behavior Modeling Program: Focus 2010 Conference	Chantilly, VA	OSD-HSCB Program	**www.sa-meetings.com/OSD-HSCBFocus2010/** Password: Focus2010
October 2009	Developing Intercultural Adaptability in the Warfighter: A Workshop on Cultural Training and Education	TBA		**Allison Abbe** **allison.abbe@us.army.mil**
October 14–16, 2009	Fifth Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-09)	Stanford, CA	AAAI	**www.aiide2009.org**
November 30–December 3, 2009	Interservice / Industry Training, Simulation and Education Conference (I/ITSEC)	Orlando, FL		**http://iitsec.org/confinfo.cfm**
December 13–16, 2009	Winter Simulation Conference (WSC)	Austin, TX	INCONTROL Simulation Solutions, Systems Navigator	**www.wintersim.org**
Spring 2010	Behavior Representation in Modeling and Simulation (Brims)	Charleston, SC	AFRL, ARI, ARL, ONR, NSC, NASA, MoD	**http://brimsconference.org**

HUMAN SOCIAL CULTURE
BEHAVIOR MODELING PROGRAM

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