



WELCOME TO THE MAY / JUNE 2011 EDITION of the Modeling and Simulation Information Analysis Center (MSIAC) M&S Newsletter. This issue presents a variety of M&S articles and events from communities enabled by M&S within the Department of Defense and beyond.

Please note that although the wording in the excerpts may not always correspond to official DoD Usage, the full articles available through the links provide valuable insights into the significant ways that modeling and simulation help foster innovation. We hope you enjoy this issue and welcome your comments.



Fighting Bombs in Cyberspace Gives Army an 'Edge'



EDGE, for Enhanced Dynamic Geosocial Environment, is a research project prototype funded by the Joint IED Defeat Organization in Washington that combines the virtual world, Army simulation and computer gaming technology “to make the first firefight no worse than the last simulation.” U.S. Army graphic

(Click photo for screen-resolution image); high-resolution image available.

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Fighting Bombs in Cyberspace Gives Army an 'Edge' — continued from page 1

Afghan people and places are being replicated in cyberspace, giving warfighters a way to train for one of the most complex, deadly situations they will face on the ground. The fight against improvised explosive devices or home-made bombs — weapons of choice for terrorists everywhere — has lots of moving parts. That's why the Joint IED Defeat Organization here is funding a research project prototype that combines technology from virtual worlds, Army simulations and computer gaming.

"We're down here today working on a product called EDGE — Enhanced Dynamic Geosocial Environment," Matt Kaufman, chief of technology and integration at the Army's Training and Doctrine Command, told American Forces Press Service. The command sponsors the JIEDDO-funded prototype, which has been in development for about six months.

Kaufman and other experts at the Army Simulation and Training Technology Center in Orlando, Fla., talked about the effort to integrate "massively multi-player" online gaming technology like that used in the wildly popular World of Warcraft game, with a virtual world environment and an accurate Army simulation called OneSAF, short for One Semi Automated Forces.

"Our goal," Kaufman said, "is to be able to recreate the devices, people and activities [that make up the counter-IED effort] in the operational environment as accurately as possible to forces in training."

When the EDGE prototype is complete, warfighters headed for the war zone will be able to enter, as digital replicas of themselves called "avatars," a near-exact virtual Afghan village. There, they will be able to practice the work they will do on the ground to search out and destroy roadside bombs, and to track down and disrupt the bomb-making networks whose members fund and supply explosive materials to those they can convince to build and plant the bombs.

Training isn't the only benefit. In a virtual Afghanistan, if something goes wrong, no one dies.

"That's where we're hoping to take EDGE," said Doug

Maxwell, science and technology manager for virtual world and strategic applications at the training and technology center.

EDGE will combine the digital technologies, he added, "so we can leverage the best of both to deliver very quickly to a large audience what we know is going on in the theaters."

In a counterinsurgency or in irregular warfare, the complexity of the operational environment isn't just the kinetic piece, said Ben Jordan, director of the operational environment lab models and simulations directorate in TRADOC's Intelligence Support Activity.

This article originally appeared on the U.S. Department of Defense's website. For complete article from the Department of Defense, [click here](#).

■ ■ ■ In Therapy with Avatars: Virtual Technology to Combat Phobias, Psychotic Disorders

Combating phobias and psychotic disorders using virtual technology. This is what the work of TU Delft researcher Willem-Paul Brinkman involves. In the latest edition of Delft Outlook, TU Delft's science magazine, Brinkman shows how this method can provide solutions for such problems as fear of flying and, in the longer term, possibly also for social disorders.

Brinkman is developing so-called VRET systems (Virtual Reality Exposure Therapy) which can be used to help people deal with their anxieties, such as fear of flying, fear of heights or claustrophobia or psychotic disorders, such as paranoia. One of the first products to emerge from the Delft Mental Health Computing Lab was a vibrating aircraft seat.

TU Delft researchers have been working with other parties to develop a system to enable people with a fear of flying to experience the sounds and feel of flying via a virtual reality helmet and the vibrating seat as if they were really in the air. This helps them to become exposed to the feared situation and so overcome their fear. The system is already being used intensively, explains Brinkman.

Recently, Brinkman's work has concentrated on pro-





grammes like the virtual pub that are designed to help people with social problems. The idea is that reconstructing the social environment in a virtual world and exposing people to it will enable psychiatrists to study psychotic symptoms more effectively and ultimately provide better help to patients.

The virtual pub is still in the pilot phase. It all needs to be made even scarier. Patients find it extremely frightening when people look at them for long periods. So this feature needs to be added. It also needs to be possible to conduct a simple conversation.

“We have now conducted research on what happens when we expose people to a busy environment and to people of a different ethnicity; two factors which are known to relate to psychosis. People with paranoia seem to show a similar response to situations in the virtual world as in the real world,” explains Dr. Wim Velting from the psychiatric institute Parnassia in Delft Outlook.

The researchers record people’s reactions using physical measurements. There are changes to the patterns of the heartbeat and sweat production, and these can be analyzed by computer programs.

This article originally appeared on the ScienceDaily website. For complete article from ScienceDaily, [click here](#).



Competition Integrates Cyber Capabilities, Encourages New Ideas

SCOTT AIR FORCE BASE, Ill. (AFNS) — Airmen from the 67th Network Warfare Wing took part in the first Cyber Nexus competition here May 17 to 19.

The force-on-force event brought together operators from the Air Force’s four cyber disciplines to compete as integrated teams. The four disciplines are network operations, defensive operations, offensive operations and electronic systems security assessments.

“This is the first time we’ve done an integrated exercise where all facets are working together in tandem for a common goal,” said Col. Kevin Wooton, the 67th Network Warfare Wing commander. “For us to be able to (bring

these components) together is critical as we really start to look at operating in the cyber domain with full spectrum operations. It’s important to break down those walls and start to operate together.”

He said that typically during exercises each subcomponent is tested individually, an artificiality that prevents Airmen from thinking outside the box and truly understanding how they’re supposed to work together.

One multi-disciplined team was positioned at Maxwell Air Force Base, Ala., and one was here in the Air Force Network Integration Center. Both teams were given the task of defending the networks and assuring the mission operations of five bases, along with a series of notional missions to produce military-type effects, such as obtaining a piece of information, defending a capability, etc.

Teams not only received points for completing their mission but also for how well they used all four disciplines in the competition, so it was in the best interest of each team to take full advantage of all its capabilities.

“It is very, very difficult to pioneer a new way of doing business,” Colonel Wooton said. “In other opportunities where we’ve had a chance to fight each other, and to fight other operators, we have tended not to integrate. We had (U.S. Cyber Command) people here observing, to find out how we do this, because they want to expand on it.

“When a fighter pilot goes to Red Flag, he expects to fly against the very best,” the colonel said. “Now we will do the same.”

The competition took place outside of the Air Force network through the Simulated Training Exercise range, a project led by the Air Force Network Integration Center. SIMTEX closely models the Air Force’s three-tiered network operations and security structure, giving cyber warriors valuable hands-on experience within a safe, secure environment. The realistic environment also helps Airmen to view military operations holistically, encouraging them to move beyond a “defend the network” mentality and focus on assuring the mission.

This article originally appeared on the U.S. Air Force Website. For the complete article from the U.S. Air Force, [click here](#).





Modelling and Simulation Centre of Excellence Kick-Off Meeting in Rome

The first Memorandum of Understanding (MOU) Conference for the NATO Modelling and Simulation Centre of Excellence (M&S COE) took place May 4-6, in Rome, Italy.

Participants from Allied Command Transformation (ACT), 15 Nations, and several members of industry and academia came together during the conference to discuss how the COE could be used to benefit NATO and the Nations.

The proposed M&S COE acts as a catalyst for transformation through the involvement NATO, government, academia, industry and operational and training entities. The centre is dedicated to the promotion of M&S in support of operational requirements.

Headquarters, Supreme Allied Commander Transformation (HQ SACT) supports the initiation and development of the COE with subject matter experts from the Transformation Network Coordination Cell (TNCC) and the Capability Engineering (CE) Division.

The three-day event was led by Italian Army Colonel Francesco Mastrorosa, Director of the M&S COE.

“M&S will be leveraged to improve cooperation and interoperability of NATO and Partner Nations’ existing and future training, exercises and support to operations,” Mastrorosa said. “The COE will be a great asset to NATO and Italy.”

During the event, participants discussed in detail the COE concept, initiating documents, core competencies, deliverables and program of work (POW). The COE plans to develop and provide a wide range of products and services for NATO and Nations based on an annual POW coordinated with HQ SACT and approved by the Steering Committee.

The Steering Committee said it plans to give first priority of the centre’s activities to the requests of HQ SACT. Within the capabilities of the Centre and the time available, the participating Nations will also have the opportunity to

use the facilities and the expertise of the M&S COE for activities to benefit their own Nations.

In order to enhance NATO and national capabilities in the field of M&S, the COE has identified the following examples of products and services they hope to provide: education through courses, conferences, seminars and workshops; education and certification for M&S subject matter experts; support the development and management of shared repositories and web-based scenarios, models, simulations, data, techniques, tools and best practices; and contributions to the development of concepts and conduct of experimentation, which require M&S expertise.

The M&S COE expects to host the second MOU conference in Rome in early October. At that time, Nations are expected to formally announce their intention to join the COE and share in staffing, resources and products.

This article originally appeared on NATO's website. For the original article on NATO's M&S Centre of Excellence, [click here](#).



Blood Vessel Simulation Probes Secrets of Brain

Zoom down to one artery in your body, and the commotion is constant: blood cells hurtle down the passage with hundreds of their kin, bumping against other cells and the walls as they go. The many variables—and the sheer immensity of the human circulatory system—have kept scientists from closely documenting the rough-and-tumble life inside blood vessels.

This is an area of science called “biophysics”, for the forces that govern red blood cells’ movements at this level are best described by the laws of physics and can be mapped with mathematics. That’s exactly what a team of scientists from Brown University led by G. E. Karniadakis and the U.S. Department of Energy’s (DOE) Argonne National Laboratory are doing on the lab’s supercomputer, hoping that a better map will lead to better diagnoses and treatments for patients with blood flow complications.

Though we’ve come a long way from the ancient Greeks, who believed blood came from the liver, there’s a surpris-





ing amount that we don't know about blood. Newer, faster supercomputers have allowed scientists to create detailed models of blood flow that help doctors understand what happens at the molecular level and, consequently, how heart and blood diseases can be treated.

Argonne's Blue Gene/P supercomputer, housed at the Argonne Leadership Computing Facility (ALCF), allows scientists to tackle these immense problems with the power of 500 trillion calculations per second.

One part of the study is mapping exactly how red blood cells move through the brain. For example, last year the team used similar modeling to discover that the malaria parasite makes its victims' red blood cells 50 times stiffer than normal.

This article originally appeared on the U.S. Department of Energy (DOE) Argonne National Laboratory website. For the complete article from the Department of Energy, [click here](#).



Navy Explores Engineering, Training in Virtual Worlds



A visitor approaches the main entrance of the virtual Naval Undersea Warfare Center, part of Naval Sea Systems Command, in the virtual world Second Life.

(Click photo for screen-resolution image); high-resolution image available.

WASHINGTON – The Navy is exploring virtual worlds for applications in the air and under the sea, including the real-time design of future command-and-control spaces for submarines.

At the Naval Undersea Warfare Center's Division Newport in Rhode Island, Steven Aguiar is the virtual worlds technical program manager.

In late 2007, the Division Newport leadership set out to determine whether "rapidly evolving technologies like gaming engines, Web 2.0 and a new thing called virtual worlds could impact our undersea warfare domain," Aguiar told American Forces Press Service.

At the time, Aguiar designed advanced computer systems for submarine attack centers.

"Even with that fairly focused domain knowledge," he said, "I could appreciate that virtual worlds like Second Life had a lot of potential for rapid prototyping of command-and-control spaces, training of systems or tactics and visualization of data analysis."

Nearly four years later, Aguiar said, his team is looking hard at Second Life, Teleplace, RealWorld, Open Simulator and other virtual worlds "to understand their strengths and weaknesses and limitations as we apply them to military requirements."

This includes "bringing the virtual worlds into our laboratory, firing them up and getting some hands-on experience," he added.

Division Newport supplies the technical foundation for conceptualizing, developing, fielding, modernizing and maintaining Navy undersea systems. The work ranges from research to supporting fleet operational capabilities and especially applied research and system development.

Virtual world capabilities lend themselves to many of these tasks, he said.

Aguiar's team describes virtual worlds as the coming together of gaming engines, Web 2.0 and classic modeling and simulation. "The real-time dynamics of the environment is the power of virtual worlds," Aguiar said.

As avatars, he added, users can walk into any 3-D virtual environment and have the freedom to interact with each other and with the environment as if they were truly collocated in a physical space.

This article originally appeared on the U.S. Department of Defense website. For complete article from the Department of Defense, [click here](#).





Virtual Counter IED System Enhancing Training in Europe

GRAFENWOEHR, Germany — The air was thick with the stench of bomb chemicals when the Soldiers walked into the room.

Their breathing became labored, their eyes began to water and someone sneezed as he realized he was standing in a bomb-making lab.

Fortunately for them, this was just a simulation. Soldiers from Baumholder, Germany, were attending the Multi-cultural Mobile Counter-Improvised Explosive Device Interactive Trainer, or McMCIT, at the Joint Multinational Training Command in Grafenwoehr, Germany, April 12.

The simulation cell exercise was designed to familiarize Soldiers with what bomb-making materials smell like so they are more easily recognizable when military members conduct searches in homes while downrange.

The McCIT, which has been funded by the Joint IED Defeat Organization, is a state-of-the-art mobile training system and the only kind in the world made available to all U.S., NATO and coalition Soldiers.

Consisting of four cells, the McMCIT helps Soldiers gain enemy perspective and shows them what to watch out for during convoy operations - all without setting foot in a classroom.

“It’s a memory game,” said Allen D. Drew, the site lead of the McCIT. “These four cells are designed to give Soldiers visual cues so they can see right away when something is not right - whether it’s while they are conducting patrols or searches.”

The first cell shows examples of the five components of improvised explosive devices, or IEDs, with the theme “IEDs are nothing new.”

Displayed on the walls, in glass cases, are bomb vests that are broken down to see each part of how a suicide bomber’s vest functions.

The vest models were designed by retired Command Sgt. Maj. Hideshi Sasaki, after he deployed with his unit and

lost 18 of his Soldiers from suicide bombers.

This article originally appeared on the U.S. Army website. For the complete article from the U.S. Army, [click here](#).



Cadets Step onto Virtual Battlefield

LEXINGTON, Va., April 20, 2011 — Army ROTC cadets at the George C. Marshall Awards and Leadership Seminar took a trip through time and distance to a battlefield in Iraq.

Through technology, the cadets were transported more than 6,000 miles and six years to an ambush on Palm Sunday 2005 near Baghdad. They stood on rooftops insurgents used to fire on American Soldiers and civilian truck drivers. They sat in the driver’s seat of a truck hit by the insurgents’ rocket-propelled grenades. They ran down a trench beside a 10-foot berm that offered cover from enemy fire.

All of this they accomplished while sitting in their desks on the campus of Washington and Lee University during a virtual staff ride, where the battle was reconstructed on a granular level of detail.

“It’s easy to go to Gettysburg,” said Curtis King, an instructor at the Combat Studies Institute with the Combined Arms Center at Fort Leavenworth, Kan., who facilitated the simulation. “But it’s not easy to visit Afghanistan.

“It’s nice to do a staff ride without getting shot at,” he said.

The session was patterned after a traditional staff ride, except that instead of driving over the actual terrain, it was reconstructed in 3D on a computer screen almost exactly, down to the buildings and hills.

The session was divided into three parts. The first phase, or preliminary study, laid out the conditions around Baghdad with the rising insurgency and increasing attacks on convoys in the early part of 2005. King walked the students through the different supply routes and units involved.

During the second phase, or field phase, King zoomed the point of view around the battlefield as the battle progressed, following the trucks and Humvees through the action, discussing the actions of specific Soldiers who took





part in the battle. At one point, footage an Australian convoy driver had filmed during the attack was played.

The third phase, or integration phase, focused on lessons learned from the scenario. Decisions Soldiers made were dissected and discussed.

King explained the point of a staff ride is to look at the terrain and how it affected an engagement. To reconstruct the ambush took about a year and was formed by reviewing official accounts of the conflict, interviewing those involved and piecing together photographs and satellite imagery to reconstruct the terrain.

This article originally appeared on the United States Army website. For complete article from the U.S. Army, [click here](#).



Gaming, Simulation Tools Merged to Create Models for Border Security

With funding from the Department of Homeland Security's Customs and Border Protection (CBP), researchers at Sandia National Laboratories have developed a high-fidelity simulation and analysis program that aids policy and decision-makers tasked with making key procurements and funding choices.

The Borders High Level Model (HLM) uses a serious gaming platform known as Ground Truth, a force-on-force battle simulation tool called Dante™, and the work of several collaborating organizations.

“There’s a lot of debate going on in the government concerning the technology and infrastructure investments that need to be made along the border,” explained Jason Reinhardt, who serves as the Borders HLM project manager at Sandia. “How much fence do we need? What kind of fence? What is the right mix of border personnel and technology? How can sensors, vehicles and other technical equipment most effectively be used? With Borders HLM, CBP officials can simulate their defensive architectures, accurately measure their performance and start to answer these difficult questions.”

Ground Truth, initially funded through internal Sandia

investments in 2007, is a gaming platform originally designed to prepare decision makers and first responders for weapons of mass destruction/weapons of mass effect (WMD/WME) attacks in metropolitan areas. Developed by Sandia computer scientist and Borders HLM principal investigator Donna Djordjevich, the software provides a virtual environment where users can play through various scenarios to see the effects of their decisions under the constraints of time and resources.

For the Borders HLM project, the Ground Truth software has been integrated into bottom-projected touch surface table. On this game surface, users can see “people” moving across the border terrain, observe CBP “personnel” respond to incidents and essentially control those movements and “apprehend” suspects. Users can also view a leader board of sorts that shows how many suspects have been apprehended, the dollar amount spent implementing the chosen architecture and other metrics that matter to CBP decision-makers.

Dante™, also part of the Borders HLM platform, is a force-on-force battle simulation tool built on the well-known Umbra simulation framework developed and introduced in 2001 by Sandia researchers.

The work also builds from another Sandia borders project from the mid-2000s (focused on the impact of new detection technology at ports of entry) and capitalizes on a range of existing Sandia capabilities, including the Weapons of Mass Destruction Decision Analysis Center (WMD-DAC), the National Infrastructure Simulation and Analysis Center (NISAC, a joint Sandia and Los Alamos National Laboratory program) and even the lab’s expertise in robotics.

According to Reinhardt and Djordjevich, there were a number of technical challenges in integrating a mature modeling technology like Dante™ with a newer gaming technology like Ground Truth.

This article originally appeared on the ScienceDaily website. For complete article from ScienceDaily, [click here](#).





■ ■ ■ NASA Puts Earth's Nearest Neighbor, 'The Moon', Within Reach

NASA has created a new interactive web-based tool that incorporates observations from past and current lunar missions creating one of the most comprehensive lunar research websites to date. The Lunar Mapping and Modeling Project at NASA's Marshall Space Flight Center in Huntsville, Ala., has created an online set of capabilities and tools that will allow anyone with an Internet connection to search through, view, and analyze a vast number of lunar images and other digital products. The data and tools available through the project website will allow researchers to perform in-depth analyses to support mission planning and system design for lunar exploration and science missions. It will permit detailed scientific analysis and discovery and open additional educational and outreach opportunities.

The project website is a one-stop location for finding, retrieving, and analyzing data about the moon, including the most recent lunar surface imagery, altimetry, temperature, lighting and other data, as provided by the Lunar Reconnaissance Orbiter (LRO) and its seven onboard instruments.

The orbiter, launched by NASA in 2009, continues to gather information about the moon from its orbit some 31 miles (50 kilometers) above the lunar surface. LRO has provided a treasure trove of data — more than all previous lunar and planetary missions combined.

The Lunar Mapping and Modeling Project website will also include data obtained from past lunar programs and missions including Apollo, Lunar Orbiter, Lunar Prospector, Clementine, Kaguya (Japan) and Chandrayaan-1 (India).

“By making these data widely available to the general public, NASA seeks to provide engineers, scientists, mission planners, educators and students with a new resource that will allow them to view and analyze a wide array of lunar images and other data products in a way not previously available to such a diverse group,” said Raymond French,

integration lead for the Lunar Mapping and Modeling Project Office at Marshall.

This article originally appeared on the NASA website. For complete article from NASA, [click here](#).

■ ■ ■ AGILE Fire

Today, mission success is increasingly dependent on collaboration both between USAF systems and across Services. Evaluating effectiveness of systems and Tactics, Techniques and Procedures (TTPs) for net-centric, collaborative warfare requires a test environment including the system under test and all interrelated systems needed to accomplish an end-to-end mission in combat. Live, Virtual, Constructive (LVC) distributed testing is a cost-efficient approach to providing the required environment. The Air Force Integrated Collaborative Environment (AF-ICE) approach facilitates creating LVC distributed environments capable of assessing interoperability in operational context.

The Air-Ground Integrated Layer Exploration (AGILE) Fire venue is an example of the AF-ICE approach that is contributing to today's fight and helping prepare for the future.

AGILE Fire is a continuing series of distributed test events designed to identify interoperability gaps, shortfalls, and overlaps with current and emerging systems and networks within/between Air Force and Army space, air, and ground communication layers.

This venue provides a distributed LVC environment linking Government and industry sites around the country allowing the execution of operationally realistic mission threads. In AGILE Fire participating projects gain insight into how their “system” interacts in a mission thread context.

These events enable participating projects to refine system requirements, mature CONOPS, develop and validate TTPs, assess prototypes, discover interoperability problems prior to fielding, and evaluate evolving designs.

The first AGILE Fire event in January 2010 included 4 projects and 5 sites. From this beginning the AGILE Fire venue has evolved and matured with AGILE Fire II and





III held in August 2010 and February 2011 respectively. These events linked ten to twelve sites and supported eight to ten initiatives/projects.

The Air Force AGILE Team is in the process of planning for the fourth AGILE Fire event scheduled for August 2011.

While AGILE Fire events include substantial portions of live assets (nearly 80% in AGILE Fire III), virtual and constructive simulations are critical to fill out the battle space and provide a credible Joint Mission Environment. AGILE Fire events leverage the persistent Joint Mission Environment Test Capability (JMETC) Secure Defense Research and Engineering Network (SDREN) infrastructure to integrate facilities, labs and resources among numerous geographically distributed participating sites. Participating organizations provided the majority of resources to plan and execute their analysis objectives and meet their data collection requirements.

The AF-ICE team, personnel from the 46th Test Squadron, the Simulation and Analysis Facility (SIMAF), and the Air Force Command and Control Integration Center (AFC2IC), provide event oversight, planning and facilitation. The Interoperability Test and Evaluation Capability (InterTEC) joint test tools were used to support the overarching analysis objectives and initiative data collection requirements.

Projects that have participated in past AGILE Fire events include: Joint Air and Ground Integration Cell (JAGIC), Net Enabled Weapon (NEW), Multi-function Advanced Data Link (MADL), Battlefield Airborne Communications Node Intra-flight Datalink Subsystem (BACN/ BIS), Dynamic Airspace Management (DASM), Advanced Field Artillery Tactical Data System (AFATDS)-Tactical Air Control Party-Close Air Support System(TACP-CASS) Variable Message Format, and Counter-Rocket Artillery and Mortar (C-RAM), Integrated Operating Environment (IOE), Geo-Location of Potentially Harmful Electromagnetic Radiators (GOPHER) and Miniature Navigator Demonstration (MIND), Joint Aerial Layer Network (JALN) and Joint Airborne Control Officer (JANCO), and Forward Observer System (FOS) and/or Pocket Sized Forward Entry Device (PFED) software integrated on the U.S. Army Land Warrior System. A new player in AGILE is the Joint

UAS Digital Information Exchange (JUDIE) program which is using AGILE Fire IV as their Field Test 1.

This article was contributed by Carol Booth, Contractor support to Air Force Modeling and Simulation Policy Division (SAF/A6WM).



Modeling Human Interface

What's one of the most complex parts of any weapons system? Most would guess it has to do with some highly technical, highly sensitive manufactured component. Actually, one of the most complex, and often challenging, aspects of any system is the human element — the human beings actually using the system.

The human element is critical to the design of any product or system. From the developers of the iPad to the Joint Strike Fighter, successful organizations must account for and test how their system will interact with the users. In fact, every system developed for the Department of Defense (DoD), whether it's a new radar, weapon, or aircraft, goes through a series of tests and evaluations to understand the human interface. Organizations can improve the tests of their systems through modeling and simulation (M&S) since M&S provides additional opportunities to evaluate systems and ensure they are designed and developed with both human capabilities and limitations in mind.

In an effort to increase their understanding of the human element, the U.S. Air Force contacted the Modeling and Simulation Information Analysis Center (MSIAC). In response, the MSIAC developed a number of innovative approaches for quantifying the impact of Human Systems Integration (HSI) on weapon system availability.

Specifically, MSIAC explored HSI domains in extreme environments, workload theory and warfighter-system interaction. In addition to testing these domains, the MSIAC began working on new assessments and processes that will eventually encompass the full range of human performance. Included in this new range will be various psychological stressors, such as emotional and physical exhaustion.

The blog post originally appeared on Armed with Science. For the complete blog post, [click here](#).





MSIAC's Secure Network Receives Excellent Rating

The MSIAC's secure network underwent a Cyber Command Readiness Inspection (CCRI) recently that was conducted by the Defense Information Systems Agency (DISA). Extensive preparation by the MSIAC team produced dramatic results culminating an overall CCRI rating of excellent! A CCRI is a required event for every government sponsored network and is a program that provides an assessment of network security compliance with DoD Information Assurance policies and configuration requirements.

The CCRI inspection applies to all Combatant Commands,

Services, Agencies, Subordinate Commands, and Contractors within the Department of Defense that connect to the Defense Information Systems Network infrastructure and process or store DoD information.

There are specific grading criteria that represent the overall information assurance/computer network defense compliance, measured on a 100-point scale. The CCRI grading criteria includes technical vulnerabilities, directive compliance and nontechnical readiness elements supporting the information assurance readiness posture.

This article was contributed by Mr. Robert Graebener and Mr. Dave Whitt of the MSIAC.

M&S WHAT & WHEN

THE M&S SPRING JOURNAL THE DATA ISSUE

The Spring 2011 M&S Journal has been released! Please visit www.dod-msiac.org/journals.html to view.

The M&S Journal is a theme-based, quarterly publication of technical articles that highlight M&S technology, applications, prototype processes or products, points of view, or emerging philosophies.

It is published by the Modeling & Simulation Coordination Office (M&S CO). The M&S Journal is a valuable resource for the M&S community: across DoD, other government agencies, international partner organizations, industry, and academia. The M&S Journal occasionally publishes special issues devoted to a particular topic.

Currently Accepting Papers

The M&S Journal is currently accepting paper submissions.



All submitted technical papers for the M&S Journal undergo rigorous review following an initial screening for conformance to basic requirements. Publishing in the M&S Journal affords authors both an online and print forum for their M&S technical papers, gaining recognition and publicity throughout the DoD M&S community. Authors also receive extended visibility for their ideas through free online access to their article on the MSIAC website.

Instructions for Authors

- Submissions may be entirely new work, or previously published papers that would benefit from a wider exposure and would provide valuable resources for M&S users.
- Submission must be previously cleared material for open distribution, and should include reprint permissions.
- Manuscripts should be between five to fifteen pages, or 500 to 5,000 words.





- Manuscripts should be submitted in Microsoft Word format.
- The M&S Journal Editorial Board reserves the right to modify a paper for the purpose of typographical or grammar corrections.
- The author will be notified whether the submission has met the basic requirements for the M&S Journal, and will be notified again when the final acceptance/rejection decision has been made.

Please contact the MSIACHelpDesk@dod-msiac.org for more information, or if you would like to submit a technical paper to the M&S Journal.

The M&S Journal does not accept papers that are structured as commercial advertising, or as promotions of products or services.

Modeling and Simulation CALENDAR OF EVENTS

Please visit the **MSIAC Calendar** for a complete list of events currently scheduled to take place in the M&S community. The MSIAC Calendar is available on our website, www.dod-msiac.org/calendar.html

Promote an Event

If you would like to promote an M&S event on the MSIAC Calendar, please email the event information to MSIACHelpDesk@dod-msiac.org.

2011 Fall Simulation Interoperability Workshop

19-23, September 2011. The **2011 Fall Simulation Interoperability Workshop (SIW)** will be held at the Florida Mall Conference Center in Orlando, Florida. SIW is sponsored by the Simulation Interoperability Standards Organization (SISO).

The SIW is a semiannual event encompassing a broad range of model and simulation issues, applications and communities. The Workshop consists of a series of forums and special sessions addressing interoperability issues and proposed solutions; tutorials on state-of-the-art methodologies, tools and techniques; and exhibits displaying the latest technological advances.

The SISO mission is to provide an open forum that promotes the interoperability and reuse of models and simulations through the exchange of ideas, the examination of technologies, and the development of standards.

MSIAC M&S NEWSLETTER

The Modeling and Simulation Information Analysis Center (MSIAC) M&S Newsletter is now available as an automatic service. The MSIAC M&S Newsletter is a bimonthly publication that brings you the most recent information and events from within the M&S community.

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