

Announcement and Call for Presentations

(As of 4 May 2012)

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80th MORS Symposium | 11-14 June 2012 | US Air Force Academy

President's Welcome

Fellow MORSians and Analysts

With this Announcement and Call for Presentations (ACP), we begin formal preparation for our 80th Symposium at the United States Air Force Academy in Colorado Springs, June 11-14, 2012. The annual Symposium is the highlight of our MORS year with over 1,000 analysts gathering to present, discuss and network over four days.

The discipline of what we have traditionally referred to as military operations analysis is expanding in its scope to meet the demands of a changing world. From applying whole-of-government approaches to operations such as countering threats in terrorism, narcotics, and proliferation, to building the right balance of military forces and acquiring the resources to support this force, we are challenged as analysts to find and use methods and techniques to support decision makers facing tough choices in today's world. MORS members are tackling these problems of increasing complexity on a daily basis and we see collaboration throughout government agencies. This is expressed in my theme for the year and the Symposium, "Expanding the Boundaries of National Security Analysis."

Under Program Chair Bruce Wyman and his capable Program Staff, we will have an abundance of activities during this year's Symposium. In addition to the Working Groups and Composite Groups, we have four Distributed Working Groups, a Focus Session and a number of intriguing Special Sessions designed to address the needs and challenges the national security analytic community must face in the future. We will continue to offer a number of tutorials to provide our attendees the opportunity to learn new techniques; and develop or expand their professional skills. The Symposium schedule will feature opportunities to interact with other members of the profession and the government leaders from the Department of Defense, Department of Homeland Security, and other governmental agencies that rely on the services of our analytic community. The Symposium will also offer the chance to gather socially, catch up on old friendships, and network with other analysts in the national security community as we continue to grow our profession. We are also once again offering a Guest Program for your significant others and family to see the greater Colorado Springs area while the Symposium is in session.

As we continue our preparations for the 80th Symposium, I challenge our Working Group and Special Session Chairs to seek out presentations on contemporary issues consistent with the challenges facing the national security analytic community. In keeping with our theme, I want to urge analysts from throughout the national security community to not just attend the Symposium, but step forward in presenting your work and sharing your experiences and I ask our Chairs to make a special effort to reach out to our younger analysts who can bring current field experience to our sessions and are the future of our profession.

As you review this ACP and consider your participation in this year's Symposium, I strongly urge you to take the time to prepare an abstract, submit it to the appropriate Working Group, and present at the Symposium. The Symposium is a great place to not only show off past work, but to talk about your current efforts and get the ideas of colleagues who come from different backgrounds and experiences. There is no better place to learn and share, and expand your professional horizons than the 80th MORS Symposium at Colorado Springs!

Ms. Trena Lilly
MORS President

Agenda

Monday, 11 June 2012

8000 – 1700	On-Site Registration Commences
0830 – 1700	Tutorials
0830 – 1700	Short Course: Risk Modeling and Analysis
1330 – 1700	Rist Prize Competition
1330 – 1500	Special Meetings Outbriefs
1530 – 1630	WG/CG/DWG/FS Chairs Kickoff
1730 – 1800	First Timer's Orientation
1800 – 2000	MORS Membership Reception

Tuesday, 12 June 2012

0700 – 1700	On-Site Registration
0830 – 1000	PLENARY SESSION
1030 – 1200	1 st Working Group Session Composite Group A
1215 – 1315	Tutorials
1330 – 1500	<i>Concurrent Sessions</i> 2 nd Working Group Session Poster Sessions Demonstrations Composite Group B
1530 – 1700	<i>Concurrent Sessions</i> Poster Sessions Demonstrations Special Sessions I Sponsor's Hot Topics
1715 – 1900	Welcome Mixer

Wednesday, 13 June 2012

0700 – 0800	WG/CG/FS/DWG Chairs Town Hall Meeting
0700 – 0800	Editors' Breakfast
0830 – 1000	<i>Concurrent Sessions</i> 3 rd Working Group Session Poster Sessions Demonstrations Composite Group C
1000 – 1200	Short Course: Risk Modeling and Analysis
1030 – 1200	<i>Concurrent Sessions</i> 4 th Working Group Session Poster Sessions Demonstrations Composite Group D

1215 – 1315	Tutorials
1330 – 1500	<i>Concurrent Sessions</i> 5th Working Group Session Poster Sessions Demonstrations Composite Group E
1530 – 1700	<i>Concurrent Sessions</i> Special Sessions II Poster Sessions Demonstrations Special Sessions II Air Force Sponsor Session Navy Sponsor Session Social Event
1730 – 2130	
Thursday, 14 June 2012	
0630 – 0730	4th Annual 5K Run
0830 – 1000	<i>Concurrent Sessions</i> 6th Working Group Session Poster Sessions Demonstrations Composite Group F
1030 – 1200	<i>Concurrent Sessions</i> 7th Working Group Session Poster Sessions Demonstrations Composite Group G
1215 – 1315	Tutorials
1330 – 1500	<i>Concurrent Sessions</i> 8th Working Group Session Poster Sessions Demonstrations
1530 – 1700	<i>Concurrent Sessions</i> WG/CG/DWG/FS Chairs Wrap-up Poster Sessions Demonstrations Special Sessions III Army Sponsor Session OSD Sponsor Session



80th MORS Symposium | 11-14 June 2012 | US Air Force Academy

Program Staff

POSITION	NAME	PHONE	EMAIL
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Registration Fees

Entity	MORS Membership Status	Early	Regular	Late
US Federal Government	Member	\$350.00	\$505.00	\$605.00
US Federal Government	Non-Member	\$390.00	\$560.00	\$660.00
All Others	Member	\$415.00	\$595.00	\$695.00
All Others	Non-Member	\$460.00	\$660.00	\$760.00

*Registration Definitions:

Early Registration ends on **Friday, March 30, 2012**

Regular Registration begins on **Saturday, March 31** and ends on **Friday, May 11, 2012**

Late Registration includes a \$100.00 non-refundable surcharge.

Registration Policies:

- 100% of registration fees will be refunded for cancellations received through **Friday, May 11, 2012**.
- For cancellations received on or after **May 12, 2012** registration fees will be refunded less a **25%** administration fee.
- All meals and social events are non-refundable after **Friday, May 20, 2012**.
- No refunds will be offered after **Friday, June 1, 2012**.

MORS Membership Dues (US Addresses):

MORS members pay discounted registration fees. If you join now, you may pay the member rate for the 80th MORSS. To purchase a MORS membership, please visit the MORS website at www.mors.org or you may contact Mr. Eric Hamp, Director of Membership and Security, at 703-933-9073, or via email at eric@mors.org.

(1 year)	(2 years)	(3 years)
\$ 75	\$ 140	\$ 210

Accepted Credit Cards:



Please note that your credit card will be charged immediately. It is also MORS' policy to bill Government Forms SF182 approximately 3 weeks after the symposium. Various refunds (listed above) will be made approximately 30 days after the symposium.



Procedures for Submitting Presentation Abstracts

1. **Presentation Abstract Submissions** – Abstracts for presentations offered to working groups should be of interest to a specific working group. Abstracts for presentations offered to composite groups should be broad and comprehensive and should be of interest to each of the working groups assigned within the composite group.
2. **Abstracts** – All abstracts should be submitted through the new MORS “Call for Presentations” site at <http://www.mors.org/events/80th.aspx>. Once you are on the site please follow the instructions provided. Be sure to complete as many of the spaces as possible, and include your email address. This will ensure that you receive a confirmation of your submission. The deadline to submit abstracts for consideration at the 80th MORSS is **26 January 2012**.
3. **Abstracts Disclosure Form 109 A/B** – If you would like your unclassified, approved for public release, distribution unlimited abstract to be included on the 80th MORSS Call for Presentations on-line website, a MORS Form 109 A/B must be completed. The abstract **MUST** be Unclassified and Approved for Public Release; Distribution Unlimited. (If obtaining a signature to clear your unclassified abstract is a long process, you may submit your unclassified abstract for consideration without the releasing official’s signature and follow up with a signed copy before the 9 March 2012 deadline.) **If you do not want your abstract included on the 80th MORSS Abstracts on-line website you do not have to complete Form 109A/B.** An abstract lacking an approved Form 109 A/B will have only the presentation’s title shown on-line.
4. **Notification** – If you are not notified of acceptance or rejection of abstracts offered for presentation at the 80th MORSS by 23 February 2012 please call the WG Chair(s) or Session Chairs directly.

Guidelines for Presenting a MORSS Paper

Some people equate presenting a paper at MORSS to writing a thesis – this is not true. To present at the Symposium, a presenter simply needs the approved abstract and approved briefing slides. However, if the presentation is deemed notable, you may be invited to compete for the Barchi Prize, at which time a written paper will be required.

Another common misperception is that the research presented at the Symposium must be complete or a conclusion reached – this also is not true. Discussion of work in progress is an important part of the MORS working groups! This is a good opportunity to receive feedback from your peers on how your analysis is perceived and how it may be improved. Discussions may reveal additional perspectives and relevant information.

Schedule

16	Nov 2011	80th MORSS Announcement and Call for Presentations (ACP) goes live on MORS website.
18	Jan 2012	80th MORS Symposium Registration Site Opens!
26	Jan 2012	DEADLINE: Final date for abstracts to be submitted to the online 80th ACP website
21	Feb 2012	Working Group Chairs provide a DRAFT agenda based on the abstracts received from the 80th MORSS ACP website.
23	Feb 2012	All Working/Composite Groups, Focus Sessions, Special Sessions, Tutorials and Demonstrations Chairs MUST NOTIFY potential presenters and the MORS Office of acceptance or rejection of submissions.
9	March 2012	DEADLINE: MORS Form 109 A/B (abstract disclosure form) due at the MORS office for all presentations, tutorials, special sessions, and demos.
30	March 2012	<i>Early registration ends.</i>
31	March 2012	<i>Regular registration begins.</i>
11	May 2012	DEADLINE: Regular 80th registration ends.
11	May 2012	<i>Revisions to ALL 80th MORSS Agendas.</i> This will be the final agenda that will be handed out at the Symposium in the Quick Reference Program Schedule (QRPS). All agenda revisions must be made using the Speaker Resource Center (SRC). WG and other session agendas for the Quick Reference Program Schedule (QRPS) will be taken directly from the SRC. <u>Changes made after this date should be posted on the MORS message board in the front of the MORS On-site Office and on the door of the WG/CG class room with revisions.</u>
11	May 2012	DEADLINE: MORS Form 226A/B (personal security forms) to the MORS office. ALL attendees must complete this form.
12	May 2012	<i>Late 80th registration begins</i>
16	May 2012	DEADLINE: MORS Form 712 A/B (presentation disclosure forms) due at the MORS office for all presentations, tutorials, special sessions, and demos. <i>This will now be a firm and final date! Any late submissions must be approved by the individual session coordinator.</i>
23	May 2012	WG/CG Chairs submit for nominations for 81 st MORSS slate of WG and CG Chairs
6	June 2012	MORS office opens at Colorado Springs, CO.
1	June 2012	<i>Regular Registration Ends</i>
11	June 2012	Chairs begin onsite uploading of late unclassified presentations.
11-14	June 2012	80th MORSS at the United States Air Force Academy, Colorado Springs, CO

Composite Group Chairs

MORS Working Groups (WGs) are combined into a set of Composite Groups (CGs) to reflect the shared interests of the WGs. Presentations can be submitted to Composite Groups if the material to present covers multiple subject domains. The line-up of Composite Groups for the 80th MORSS and their leadership teams is listed below followed by the prospectuses of the individual Working Groups.

CG A – Homeland and International Operations

Chair:

Dr. Lalit Yudhbir, Systems Planning and Analysis, Inc., 703-399-7650, lyudhbir@spa.com

WG 1 – Strategic Operations
WG 2 - Chemical, Biological, Radiological, Nuclear and Advanced Explosives (CBRNE) Defense
WG 3 - Deterrence, Assurance, Counter Proliferation, Stability Operations
WG 4 – Infrastructure Analyses, Protection and Recovery
WG 5 – Homeland Security, Homeland Defense and Civil Support

CG B – C4ISR and Net-Centric Operations

Chair:

Ms. Cindy Noble, ATRC-FS, 913-684-3259 cindy.j.noble.civ@mail.mil

WG 6 – Battle Management Command and Control (BMC2)
WG 7- ISR and Intelligence
WG 8 – Space Acquisition, Testing and Operations

CG C –Joint Warfare

Chair:

Dr. Roger Burk, US Military Academy Dept of Systems Engineering, 703-244-2954, roger.burk@usma.edu

WG 9 – Air and Missile Defense
WG 10 – Joint Campaign Analysis
WG 11 – Land and Expeditionary Warfare
WG 12 – Maritime Operations
WG 13 – Power Projection and Strike Warfare
WG 14 – Air Warfare

CG D – Resources/Readiness/Training

Chair:

Ms. Sheilah Simberg, US Army Materiel Systems Analysis Activity, 410-278-5532
sheilah.a.simberg.civ@mail.mil

WG 15– Casualty Estimation and Force Health Protection
WG 16 – Strategic Deployment and Distribution
WG 17 – Logistics, Reliability and Maintainability
WG 18 – Manpower and Personnel
WG 19 – Readiness
WG 20 – Analytic Support to Training and Education

CG E – Acquisition

Chair:

Mrs. Shannon Krammes, USMC OTEA, (703) 432-0945, Shannon.krammes@usmc.mil

Advisor:

Dr. James R. Simpson, Group OA, 53d Test Management Group, Eglin AFB, 850-882-0607,
james.r.simpson64.civ@mail.mil

WG 21 - Experimentation
WG 22 – Measures of Merit
WG 23 – Test and Evaluation (T&E)
WG 24 – Analysis of Alternatives (AoA)
WG 25 – Cost Analysis
WG 26 – Decision Analysis

CG F – Interdisciplinary Advances in OR

Chair:

CAPT Jeremy Jordan, AFIT, (937) 255-3636 X6172, Jeremy.jordan@afit.edu

Co-chairs:

Mr. Rupert Seals, The Boeing Company, (610) 591-3092, Rupert.l.seals@boeing.com

CAPT Robert (Ben) Harltage, AFIT, (210) 542-7621, Robert.harltage@afit.edu

Advisor:

Ms. Rochelle A. Anderson, TRAC, (913) 684-7585, Rochelle.a.anderson.civ@mail.mil

WG 27 – Modeling and Simulation
WG 28 – Operational Environments
WG 29 - Computational Advances in OR
WG 30 - Wargaming

CG G – Hybrid Warfare

Chair:

Dr. A. David Adesnik, OSD, 703-699-1703, david.adesnik@osd.mil

WG 31 – Information and Cyber Operations
WG 32 – Special Operations and Irregular Warfare
WG 33 – Social Science Methods and Applications
WG 34 – Computational Social Sciences

WG 1 – Strategic Operations

Chair:

Rick Paulsen, AFNWC/XR, 505-853-3041, richard.paulsen@kirtland.af.mil

Co-Chairs:

Rebecca Lilley, AFNWC/XR, 505-846-7787, rebecca.lilley@kirtland.af.mil

Dr. Robert Brigantic, Pacific Northwest National Laboratory, 509-375-3675, robert.brigantic@pnnl.gov

Assistant-Chair:

2Lt Mathew Thomas, AFNWC/XR, 505-846-2581, mathew.thomas@kirtland.af.mil

Advisor:

Dr. Lalit Yudhbir, Systems Planning and Analysis, Inc., 703-399-7611, lyudhbir@spa.com

The theme for the 80th MORSS is “Expanding the Boundaries of National Security Analysis.” This is a great opportunity for Working Group (WG) 1 to consider the application of strategic operations in the ever-changing national security environment. The past decade has produced a very unique set of challenges both through significant upheaval in established countries and the surfacing of many complicated networks of non-state actors. WG 1 is soliciting abstracts dealing with all aspects of strategic operations from intelligence and planning, to analysis and war gaming the impacts of nuclear, conventional, kinetic, non-kinetic, lethal, non-lethal and cyber operations against enemy centers of gravity (COGs). WG1 will also consider presentations that focus on strategic operation supporting capabilities such as offensive and defensive systems, command and control, nuclear and non-nuclear production infrastructure, understanding adversary centers of gravity, and decision-making processes. We seek presentations employing modeling, simulation, game theory, optimization, decision analysis, management science, and other quantitative/ analytical techniques. Both completed work and work-in-progress are encouraged.

WG 2 – Chemical, Biological, Radiological, Nuclear and Advanced Explosives (CBRNE) Defense

Chair:

Dr. Andrew Wiedlea, DTRA, (703) 767-3021, Andrew.wiedlea@dtra.mil

Co-Chairs:

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Erin Shelly, RDCB-DRI-M, (410) 436-1937, erin.shelly@us.army.mil

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Laura Sears, DTRA, (703) 767-6046, laura.sears@dtra.mil

LTC Tom Rothwell, CAA, (703) 806-5173, Thomas.rothwell@us.army.mil

Chemical, Biological, Radiological, Nuclear and Advanced Explosives (CBRNE) threats pose serious challenges to U.S. military operations. In the contexts of force protection, major and irregular combat operations, homeland defense and other non-combat missions, the proliferation of technical expertise and the availability of once scarce resources (such as computational capabilities, biomedical engineering equipment, and radiological industrial sources) necessitates that future military capabilities to effectively detect, respond, deter, and maintain mission performance be strengthened against an increasingly wide set of possible scenarios. In an environment of uncertain budgets, ensuring that CBRNE risks and hazards to military operations are correctly understood in reference to the full range of force requirements is a fundamental challenge to national military, political, intelligence, and homeland security defense efforts, and to supporting infrastructures.

Working Group (WG) 2 seeks presentations about efforts that have generated new approaches, methods, technologies or systems to advance CBRNE operational defense in the areas of analysis, modeling and simulation, effects, surveillance, detection, protection, and decontamination.

WG 3 – Deterrence, Assurance, Counter-Proliferation, Strategic Stability

Chair:

Mark Sisson, STRATCOM; (402) 232-1746, sissonmr@stratcom.mil

Co-Chair:

Thad Middleton, SAF/OS; (703) 697-8141, thad.middleton@pentagon.af.mil
Derek Leggio, USSTRATCOM/J811; (402) 294-5942, Derek.leggio@stratcom.mil

Advisor:

Hunter Marks, 3AF/A9O; (225) 612-4605, DSN 314-478-1691, Hunter.Marks.mors@gmail.com

U.S. military planners and policy analysts continue to grapple with ways to conceptualize and analyze the sufficiency of forces and strategies in support of deterrence, assurance, counter-proliferation and stability operations across the spectrum of conflict. This is even more urgent, given the potential and ongoing changes to operational environments. Therefore, expanding the boundaries of national security analysis to support deterrence, assurance, counter proliferation, and stability operations is critical.

While deterrence remains an enduring goal, the U.S. recognizes its responsibility to actively engage in threat assessment and reduction as a means to conduct stability operations around the globe. These missions present challenges to the OR community as we develop methodologies to assess capabilities and outcomes in these mission areas. The global nature of these missions presents the challenge of theatre security cooperation, as missions typically span more than one geographic combatant command. In addition to these challenges, we find the resurging need for arms control in today's world. While nuclear arms control appears minor in scope compared to the days of the Cold War, we also face the need for arms control in the realms of space, missile defense, and cyberspace. The continued importance of these issues is accompanied by an elevation of attention given to it by the MORS community.

In order to respond globally, the working group is soliciting analytically leading presentations on the full spectrum of current and future issues. These issues include but are not limited to: non-proliferation; threat assessment and threat reduction; deterrence, causes and prevention of war; conflict and peacekeeping; emerging, catastrophic, and disruptive events; regional security forces and strategy; theatre security cooperation; arms control; proliferation maintenance, monitoring, prevention and mitigation; stability and escalation dynamics; diplomatic and military approaches; delivery and defenses; alternative/potential futures; sustainment; development; and changing environments.

Papers employing modeling, simulation, game theory, optimization, decision analysis, management science, assessments across PMESII and other quantitative/ analytical techniques are especially welcomed. Both completed tasks and works-in-progress are encouraged.

WG 4 – Infrastructure Analysis, Protection and Recovery (IAP&R)

Chair:

Danon L. Price, The Boeing Company, (610) 591-3053, danon.l.price@boeing.com

Advisor:

Rupert L. Seals, The Boeing Company, (610) 591-3092, Rupert.l.seals@boeing.com

The major thrust of this working group is the examination of critical infrastructure and the requirements for restoration in the event of a natural or man-made disaster. The Department of Homeland Security has defined critical infrastructure and key resources below.

- Critical Infrastructure are the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.
- Key Resources are publicly or privately controlled resources essential to the minimal operations of the economy and government.

DHS has also defined the critical infrastructure and key resources (CIKR) sectors below. Each item below has a Sector-Specific Plan (SSP). The SSPs detail the application of the National Infrastructure Protection Plan (NIPP) risk management framework to the unique characteristics and risk landscape of each sector and provide the means by which the NIPP is implemented across all CIKR sectors. Each Sector-Specific Agency developed an SSP through a coordinated effort involving their public and private sector CIKR partners.

- Agriculture and Food
- Banking and Finance
- Chemical
- Critical Manufacturing
- Commercial Facilities
- Communications
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Government Facilities
- Healthcare and Public Health
- Information Technology
- National Monuments and Icons
- Nuclear Reactors
- Materials and Waste
- Postal and Shipping
- Transportation Systems
- Water

Working Group (WG) 4 welcomes presentations about concepts under development and research as well as proven applications and techniques from all disciplines that highlight the use of operations research methods in the subject areas listed above. Presenters may include operations research analysts, statisticians, behavioral scientists, clinical providers, medical planners, logisticians, and other scientists. Special emphasis for papers should be placed on applications of infrastructure analysis, protection, and recovery to novel aspects of National Security problems. Presentations that describe development of IAP&R analysis tools, techniques, and methodologies are welcome. We look forward to hearing from you!

WG 5 – Homeland Security, Homeland Defense, and Civil Support

Chair:

Ross Snare, Department of Homeland Security, (202) 254-7080, ross.snare@associates.dhs.gov

Co-Chairs:

Gerardo Garcia, Mitre, (703) 983-2653, ggarcia@mitre.org

Deena Disraelly, Institute for Defense Analyses, (703) 575-6685, ddisrael@ida.org

Cherie Gott, USNORTHCOM, (719) 554-3945, cherie.gott@northcom.mil

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Richard Rigazio, MCCDC, (202) 372-3072, richard.c.rigazio@usmc.mil

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Since the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon, there have been major efforts in the United States to secure the homeland, particularly with the establishment of the Department of Homeland Security (DHS), March 2002, and the establishment of US Northern Command (USNORTHCOM), 1 Oct 2002, within the Department of Defense (DoD). USNORTHCOM is teamed with the bi-national North American Aerospace Defense Command (NORAD) in providing homeland defense with their complementary missions. Specifically, USNORTHCOM anticipates and conducts Homeland Defense and Civil Support operations within the assigned area of responsibility to defend, protect, and secure the United States and its interests. NORAD's mission is, in close collaboration with homeland defense, security, and law enforcement partners, to prevent air attacks against North America, safeguard the sovereign airspaces of the United States and Canada by responding to unknown, unwanted and unauthorized air activity approaching and operating within these airspaces, and to provide aerospace and maritime warning for North America. DHS was established to provide the unifying core for the vast national network of organizations and institutions involved in efforts to secure the United States of America. DHS's mission is to prevent and deter terrorist attacks and protect against and respond to threats and hazards to the nation. We will ensure safe and secure borders, welcome lawful immigrants and visitors, and promote the free-flow of commerce¹.

¹ From website: www.dhs.gov



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Working Group (WG) 5 embraces this year's MORS Symposium theme, "Expanding the Boundaries of National Security Analysis" by encouraging analytic leaders to seek new ways and/or new venues to conduct analyses.

The WG will solicit and concentrate on presenting current Science & Technology (S&T) projects and research efforts that are delivering integrated hardware and software engineering solutions, secure data transfer and analysis, and that may serve a dual-use purpose across organizations. The analysts will explain some of the research being conducted and how present efforts aid those who are tasked with securing our perimeters against future attacks. Any work-study plans and the latest result of any applicable research in these areas will also be discussed and shared within the WG.

WG 5, as home to the analytic cadre from DHS and the components and agencies within the Homeland Security Enterprise, will encourage analysts involved in all core mission areas and throughout the enterprise to share insights and learn from the considerable experiences of others.

Many of our areas of emphasis remain: (a) working through obstacles and differing priorities in the homeland security and homeland defense continuum, (b) assessing the issues, authorities, and associated policies of DoD's support to civil authorities, (c) evaluating information sharing within and across US and global partners in their respective missions, (d) sharing or exchanging classified and/or sensitive information (databases, etc.) between and among national and international partners, and (e) encouraging the junior analyst to participate and brief.

This WG will serve as a test bed for new thoughts, ideas, and approaches that our analytic community can bring to increase the security of the Homeland. We must be more collaborative in order to provide senior decision makers better options and recommendations on the issues that drive our global security effort.

WG 5 intends to work throughout the year to address some of these analytic areas and will be active in MORS events to demonstrate our commitment to conducting analyses that can lead to improvement of interactions and responses for all agencies involved in National Security.

WG 6 – Battle Management Command and Control

Chair:

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Battle Management Command and Control (BMC2) is one of six joint functions that enable the conduct of joint, interagency, intergovernmental and multinational tasks across the range of military operations. Joint Publication 3-0 states that command and control is “the authority and responsibility to effectively plan for, organize, coordinate, control, employ, and protect” the forces. For more than 20 years, the United States has been increasingly relied upon to command and control joint, interagency, intergovernmental and multinational forces during offensive, defensive and stability operations in locations around the world. Analysts have not only helped plan and support these operations, but have also identified and provided solutions to real-time battlefield issues.

The execution of BMC2 in current and future operations requires the development and implementation of structures, systems, and procedures. These elements are defined, in part, by asymmetric threats, operations in urban environments, collaboration with joint, interagency, intergovernmental and multinational entities, and planning, employing, organizing, directing, coordinating, controlling, and protecting military forces. Working Group (WG) 6 provides an opportunity for military, government, and civilian operations research analysts to examine topics, methodologies, analyses, and innovations pertinent to the challenges of C2 within this context.

WG 6 invites papers and discussions regarding the current and future analysis of BMC2 issues, systems, architectures, investment strategies and processes as well as educational programs, training programs and tools that support the continued growth and development of BMC2 capabilities. In keeping with this year’s theme “Expanding the Boundary of National Security Analysis,” WG 6 extends an offer to national security analysts and a special offer to junior analysts in the BMC2 field to present their work. Presentations may include completed studies or works-in-progress.

WG 7 – ISR and Intelligence

Chair:

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For the foreseeable future, the United States will maintain the technological edge in "battlefield awareness" and precision-guided weaponry. However, in the decades to come, we will face three types of threats: Asymmetric threats in which state and non-state adversaries avoid direct engagements with the U.S. military, but devise strategies, tactics, and weapons to minimize U.S. strengths and exploit perceived weaknesses; Strategic threats, including mobile missile and submarine threats, in which Russia, China, and probably North Korea, Syria, and Iran, will have the capability to strike the United States or its allies; and regional military threats, in which a few countries maintain large military forces with a mix of Cold War and post-Cold War concepts and technologies. Many of these potential adversaries are undertaking increasingly sophisticated Cover, Concealment, Camouflage, Denial and Deception (C3D2). These efforts are designed to hide key activities, facilities, and capabilities (e.g., mobilization or attack preparations, WMD programs, advanced weapons systems developments, treaty noncompliance) from US intelligence; to manipulate U.S. perceptions and assessments of those programs; and to protect key capabilities from US precision strike platforms. With the increase in dynamic targeting, smaller yield weapons, a desire for reduced collateral damage and a large and growing inventory of coordinate-seeking weapons, special emphasis will be placed on the ability of intelligence assets to provide accurate Target Location Accuracy. Foreign knowledge of U.S. intelligence and military operations capabilities is essential to effective C3D2. Advances in indications and warning capabilities; the growing availability of camouflage, concealment, deception, and obscurant materials; advanced technology for, and experience with, building underground facilities; and the growing use of fiber optics and encryption will increase the C3D2 challenge.

The 2004 Intelligence and Terrorism Prevention Act calls for actionable intelligence tailored to the threats of the 21st century. ISR capabilities align with the theme of "Expanding the Boundaries of National Security Analysis". Key to producing actionable intelligence from raw information is having highly trained and skilled professionals, who comprehend advanced analytical techniques. We must continue to evolve and advance analytical training with interactive high fidelity tools, and modeling and simulation data when real world data are not available. Papers that explore multidisciplinary themes are highly desired. Papers are also solicited in the areas of foreign use of Operations Research (OR) to support intelligence, OR support to joint and coalition intelligence, peacekeeping and humanitarian aid, and the use of new or nontraditional methodologies/sciences in support of the intelligence community.

WG 8 – Space Acquisition, Testing and Operations

Chair:

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Working Group (WG) 8 focuses on Operations Research (OR) efforts that help our nation “secure the high ground” in space. The presentations will demonstrate analytically sound OR techniques that help our nation acquire and operate space capabilities/systems by assessing their strategic, tactical, and operational contributions (real or projected). Presentations will further our understanding of space capabilities incorporating this year’s theme: Expanding the Boundaries of National Security Analysis.

Today, more than ever, space is the true “high ground”, because more nations around the world have organic space capabilities, access to the space domain, or both. Leveraging space provides the most global perspective possible, allowing for enhanced global security, protection of lives and assets, movement of information, and augmentation of the Warfighter’s operational environment. As nations around the world continue to leverage and acquire space capabilities, it becomes increasingly critical for the U.S. to maintain space superiority across the broad range of space operations. This WG discusses the analysis of technological challenges and solutions that bring about our unrestricted use of space, enabling our military and intelligence communities to effectively decide, detect, and deliver on a global scale.

We are seeking presentations on strategic, tactical, and operational contributions of space capabilities/systems, space families of systems, or space architectures whether in the concept, R&D, acquisition, or operational phase. Presentations may also address innovative analytical processes, methodologies, utilization of models and simulations, or techniques as they are applied to space capabilities/systems operations and/or acquisition. Submissions should demonstrate operations research techniques, whether innovative, unique, or traditional, and may be completed works or works-in-progress. This WG intends to present a variety of topics to ensure an interesting exchange of approaches, interests, and ideas among the space-focused OR community.



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WG 9 – Air and Missile Defense

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The concept of “A Tradition of Excellence and Leadership” represents both the core values and historical legacy of Air & Missile Defense Analyses. Sir Winston Churchill was one of the 1st leaders that both recognized the need for and utilized Air (and Missile) Defense-related operations research analysis. Shifting to the 21st Century, the Air and Missile Defense Mission (Anti-Air Warfare) has continued to evolve. We have a new conceptual framework—*Countering Air and Missile Threats* (JP 3-01); *Command and Control for Joint Air Operations* (JP 3-30); and the *Integrated Air and Missile Defense Joint Integrating Concepts*. We have new policy framework from the President, Congress, and Defense Department—this framework re-establishes the need for Homeland Defense and enhanced Regional Defenses. And, we face new technologies. While the manned aircraft threat endures, unmanned air vehicles, cruise/ballistic missiles and rockets continue to proliferate. Missiles are perceived as a cost-effective force equalizer to many nations as they can be used effectively against an adversary with a formidable air defense system. Further, missiles can be used as a deterrent force or an instrument of political coercion when armed with chemical, biological, or nuclear warheads. Reflecting the evolution of the threat, our Air and Missile Defense capabilities have evolved from the early Cold War stance of employing a nuclear-armed Sprint or Spartan missile, through the limited point-defense capability we saw in the first Gulf War, to the present’s conventionally armed hit-to-kill interceptor. Further, our “revolution in military affairs” adds an ever growing complexity to the battle space. We *must* fully integrate the counter-rocket, artillery & mortar mission, cyber-defense, and space operations within the conceptual framework of Air & Missile Defense. Consequence management *must* be part of our OR tool kit for both material developer and operational planner. So what are some of the key issues our working group should address so that we may continue to provide “A Tradition of Excellence and Leadership?” Last year, we asked how to we develop the next generation of national security analysts. Now we ask what methodologies are appropriate to derive requirements for future systems. How do we develop the operational concepts, tactics, techniques, and procedures (TTPs) that will allow war fighters to more effectively use tomorrow’s advanced air & missile defense systems? Are there emergent threats to our assets that potential adversaries have gleaned from our extensive/expanding use of UAVs? Command and control of air and missile defense assets is driven by (a) threats (including cyber and space threats); (b) technology (net-centric command and control; directed energy weapons; advanced cruise missiles); and (c) the complexity of command relations—Joint, Coalition, Allie

Supporting the 80th MORSS and diverse warfighter needs, WG 9 will focus on current and future studies and analyses that address enhanced defensive systems, their command, control, and employment across multiple services, joint forces, Allies, and Coalition partners. The ability to perform centralized command and control of Air & Missile Defense systems that will effectively engage from 'mud-to-space' while allowing decentralized execution and providing for the elimination of fratricide is critical to the air and missile defense mission supporting global security. Air & Missile Defense is a critical combat capability of the Combatant Commander. WG 9 will foster education, promote critical thinking, and enhance collaboration on the diverse and changing facets of air and missile defense. We strive to an intellectually challenging environment that cuts across all aerospace boundaries.

WG 10 – Joint Campaign Analysis

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The Joint Campaign Analysis Working Group - Working Group (WG) 10 - concentrates on the integration of land, sea, air, space, cyberspace, special operations and interagency concerns related to all phases of campaign operations. The primary goal of WG 10 is improving the quality of all aspects of campaign analysis and thereby supporting better-informed decision making at all levels.

WG 10 provides a forum for presentations and discussions that primarily relate to joint campaigns. Of special interest to WG 10 are models, analytical simulations, and automated tools supporting joint campaign analysis. Results of analysis will be presented and measures of effectiveness will be discussed. Peer review of the analysis techniques and results will be an important element of the WG activity.

The 80th MORS Symposium provides WG 10 the opportunity to review recent work that has a proximate influence on campaign analysis and share with the operations research community possible directions, cautions, and other benefits of its experience. Prime candidates of interest to WG 10 include:

- Studies related to joint campaigns (all phases)
 - Analysis, research techniques, methodologies and models/simulations related to joint campaigns
 - Emerging or innovative warfighting analysis methodologies and techniques
 - Results of recently completed warfighting analysis (or ongoing works-in-progress)
 - Analysis in support of programming and policy decisions
 - Analysis informing the direction and scope of transforming forces
 - Analysis of deliberate and crisis action decision-making
 - Innovative or improved automated decision support tools.
-
- WG 10 solicits thought-provoking papers in these areas which relate to the 80th MORS Symposium theme, Expanding the Boundaries of National Security Analysis.

WG 11 – Land and Expeditionary Warfare

Chair:

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Our nation has been at war for over a decade with a network of terrorists who continue to shift and expand the areas in which we must fight, from the Middle East to Africa, the Pacific to our own nation's borders. The nature of warfare is also changing. The increasing use of technology and the Internet expands the traditional battlefield to include a virtual one. We must maintain military superiority as we confront multiple threats from nations, nonstate actors, and failed nation states. This leads to an increased demand for flexibility in waging both traditional and non-traditional warfare across the full-spectrum of operations.

Working Group (WG) 11's topics, as they relate to all types of land-based warfare, fit well with the theme of the 80th MORSS, "Expanding the Boundaries of National Security Analysis." We seek

presentations that address advances in military operations, operations research techniques, methodologies and models in the following areas:

- Operations in complex and urban environments/megacities.
- Operations against non-state actors in irregular warfare, and insurgencies.
- Force protection, minimization of collateral damage and avoidance of fratricide.
- Combat and stability operations involving coalition partners and host nation organizations.
- Future concepts in the analytical field as they relate to land and expeditionary warfare.
- Analysis as it relates to national security.

We invite all analytical agencies, services, communities, and Centers of Excellence to submit presentations that can enlighten our community on current studies and the future directions of land and expeditionary warfare. Efforts of interest include, but are not limited to, historical, current, and future force analysis, innovative applications of modeling and simulation, and studies that underpin the development of future warfighting concepts, to include control measures and tactics, techniques, and procedures.

WG 12 – Maritime Operations

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The littoral regions of the world are where American influence and power have the greatest impact and are needed most often. Naval Forces will be focused on defeating anti-access capabilities in the form of small, fast surface combatants, quiet diesel submarines, and sea mines to enable control of the seas near land, and assure freedom of maneuver of joint forces from the sea base to the objective. These types of operations will require a broad spectrum of naval capabilities, which are currently characterized as (1) Sea Strike, *the projection of offensive power*; (2) Sea Shield, *the projection of defensive power*; and (3) Sea Basing, *the projection of sovereignty* to team with, and provide enhanced support for, joint forces afloat and ashore. These capabilities are integrated by an initiative to tie together naval, interagency, and national information grids to achieve unprecedented situational awareness and knowledge management, known as ForceNet.

Dominance in the littorals to project power ashore and influence the land campaign, for both the near- and long-term future, requires innovative and perhaps radical concepts for systems, tactics, support, maritime domain awareness, and force structure. It is clear that our evolving, integrated naval

capability must be built wisely, with limited resources and assured effectiveness. Fresh ideas and bold new concepts, bolstered by sound analytic thought, are essential to foster the creativity and critical thinking needed.

The objective of the Maritime Operations Working Group (WG) 12 is to promote the exchange of analytical techniques and encourage peer review of methodologies and results from research performed. This provides a means for continued growth of military operations research, and related disciplines, as applied to maritime operations with emphasis on the littoral warfare and regional sea control missions of the naval forces.

The principle focus of WG 12 will be to examine maritime operations, littoral warfare and regional sea control in contingency operations, and within the framework of interagency warfare. Our objective, in keeping with the 80th MORSS theme, “Expanding the Boundaries of National Security Analysis”, is to enhance Naval OR in this area by soliciting presentations that link their analytical conclusions to practical recommendations. We seek innovative presentations displaying original and focused analysis that stimulates thought, commentary, and perhaps, even controversy. Analyses presented may be completed or currently ongoing.

WG 13 – Power Projection and Strike Warfare

Chair:

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Traditionally, the military has approached national security in terms of military preparedness and actions, and military operations research has been focused on this. Globalization, and the tremendous increases in information technology, require that those analyzing national security issues expand beyond this traditional approach and address the complementary issues of diplomatic, economic, and intellectual

elements of national power. Joint Vision 2020 and related Service doctrine documents provide a framework for the transformation of United States Armed Forces to maintain “full spectrum dominance” during military operations. Projection of power/influence, precision engagement, information superiority, and innovation are key operational capabilities that enable military forces to dominate the future battlespace and achieve national security objectives. These capabilities are equally applicable to achieving national security objectives at home, as well as achieving strategic and military objectives abroad.

The projection of power through diplomatic and economic influence is just as important as military presence and its ability to conduct strike warfare. All perspectives must be considered when addressing our nation’s ability to implement policy by means of force using Carrier Strike Groups (CSG), Expeditionary Strike Groups (ESG), land and sea-based strike/attack capabilities (kinetic and non-kinetic), or combinations of joint forces. As defined in Joint Vision 2020, precision engagement is the ability of interagency forces to locate, track, and generate desired effects with decisive speed and accuracy throughout the spectrum of military operations. Working Group (WG) 13 seeks presentations (either completed or work in progress) that focus on the development and evaluation of concepts of operation; tactics, techniques, and procedures; systems engineering; and new technologies, that support warfare derived from the following activities:

- Studies and analysis
- Test and evaluation
- Experimentation
- Advanced Concept Technology Demonstrations
- Modeling and simulation
- Training exercises.

WG 13 encourages submission on a wide range of topics including:

- Command, control, and communication
- Intelligence, surveillance, and reconnaissance
- Electronic Warfare / Countermeasures
- Asymmetric threats to U.S. power projection assets and doctrine
- Information Superiority and Network Centric Operations
- Effects-based operations (kinetic and non-kinetic)
- Modeling, mission planning, execution and assessment
- Joint fire support
- Manned and unmanned system concepts to execute strike warfare and power projection missions
- Strategic attack
- Land/Sea-based strike
- Deep fires
- Precision weapon employment
- Diplomatic, Intelligence, Military and Economic (DIME) effects
- Regional influence through presence.



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WG 14 – Air Warfare

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It has become clear that when most effectively used, military power is integrated, combined, joint, and interagency. The Air Warfare Working Group (WG) 14 is focused on one of several components of integrated military power: the employment of combat air power. Our focus includes the effective utilization of relevant sub-systems, operational employment concepts, and the integration of air assets during the conduct of joint and combined military operations that support national strategic and theater operational objectives.

Combat air power is intended to achieve specific desired effects that contribute directly to the achievement of military and political outcomes and objectives. Therefore, the primary focus of this working group is on conventional combat missions intended to destroy, degrade, defeat, or disrupt enemy forces. These missions include Counter-Air (Offensive and Defensive), Counter-Land (Close Air Support and Interdiction), Counter-Sea, and Strategic Attack.

The entire air warfare domain is rapidly changing and increasingly challenging as the environment and employment concepts evolve. Specifically, some of the toughest challenges we have faced in the combat arena, providing the most fertile ground for analysis, are the following: rules of engagement, target identification, prevention of fratricide, effects-based operations, battle management, command and control, tactical control of air assets, integration of unmanned aerial systems, time-critical targeting, employment of air-delivered munitions in a net-centric environment, hard targets, moving targets, limiting collateral damage, urban targets, as well as interoperability in the joint, combined, and interagency arenas.

Therefore, the emphasis of WG 14 presentations is on applications, analyses, tools, concepts, and methodologies that improve our understanding of the dynamic phenomena of air warfare and the myriad of factors that impact success. These factors include air vehicle performance, capabilities of air-delivered munitions, emerging technologies, countermeasures, concepts of employment, doctrine, tactics, techniques, procedures, rules of engagement, combat identification, threats, operating environments, proficiency, interoperability, and air operations planning.

WG 14 strives to assist in developing capabilities to cope with emerging threats, new environments, and technological breakthroughs. In keeping with the 80th MORS Symposium theme of "Expanding the Boundaries of National Security Analysis", this working group focuses on the use of new analytical tools, processes, applications, methodologies, and metrics. We provide a forum for discussions and presentations relating to the unique challenges faced when attempting to conceptualize, model, simulate, analyze, and experiment with the employment of combat air power and the many factors that affect success in the combat arena and improve our understanding of air warfare.

WG 14 encourages presentations about completed work and work in progress. Presentations will be made in individual working group, combined working group, or composite group sessions.

WG 15 – Casualty Estimation and Force Health Protection

Chair:

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Co-Chairs:

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The 80th MORS Symposium theme "Expanding the Boundaries of the National Security Analysis" highlights the challenge for the analyst community to mentor the young analysts who will develop innovative methods and applications to provide world-class healthcare to America's globally deployed military forces.

The major thrust of this Working Group (WG) is the development and application of quantitative methods for estimating casualties and determining the medical planning requirements to manage the casualties in the health service support system. Casualty estimation encompasses personnel losses, such as the incidence of wounded-in-action, killed-in-action, disease and non-battle-injured, psychiatric casualties, and fratricide. Health service support includes, but is not limited to, the theater-level medical treatment facility capabilities/functions; patient movement; forward resuscitative surgery; evacuations, admissions/occurrences, staffing, return-to-duty, preventive medicine, combat and operational stress control; and logistic support and estimation.

The range of military operations has created tremendous challenges in providing the needed medical care and support of our military forces. The operational environments of interest range from stability, security, humanitarian, disaster relief, reconstruction operations and finally to major combat operations, always with the threat of chemical, biological, radiological, and nuclear weapons.

WG 15 welcomes presentations in concepts under development and research, as well as proven applications and techniques from all disciplines that highlight the use of operations research methods in

the subject areas listed. Past presenters have included operations research analysts, statisticians, behavioral scientists, clinical providers, medical planners, logisticians, and other scientists.

WG 16 – Strategic Deployment & Distribution

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The overall goal of the Strategic Deployment and Distribution Working Group (WG) 16 is to exchange ideas that promote operations research analyses supporting senior level decision-making across a broad spectrum of deployment and distribution endeavors supporting our national security and military strategy.

The focus of WG 16 is to share knowledge about modeling, simulation, and analyses (MS&A) of deployment and distribution operations. Abstracts submitted to this working group should focus on 1) examining state-of-the-art improvements to deployment and distribution processes through modeling and/or analysis, 2) developing new operations research techniques or modeling objects, families, and classes that represent mobility and transportation systems, 3) sharing new or changed doctrines, concepts of operation, missions, or fundamental assumptions regarding deployment and distribution processes, or 4) describing how defense distribution systems and processes are balancing the risks (e.g., operational, costs, security) involved in facing an uncertain future. We encourage presentations of works in progress as well as completed papers.

Analyses presented at this year's MORSS in WG 16 should reflect the MS&A of people, equipment, infrastructure, operations, and processes in deployment and distribution systems across full spectrum operations. Each presentation should cover some aspect of operations research analysis to include operational effectiveness, cost, risk, capability, and/or metrics useful for senior level decision making and policy guidance and of interest to the wider mobility and distribution community. Additionally, this WG may cover the end-to-end analysis of deployment and distribution processes from the source through the network of strategic and theater systems to delivery of forces, equipment, and sustainment to the Joint Operating Area.

WG 17 – Logistics, Reliability, and Maintainability

Chair:

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The nature of warfare constantly evolves, requiring analysts to develop new problem-solving approaches, and apply existing techniques and models in previously unexplored fields. Logistics, Reliability, and Maintainability are key aspects for supporting and expanding our national security and for that of our allies around the globe. Technological improvements increase the information available to logisticians and the need for advancements in methods of organizing, mining, and presenting that information to decision makers in a manner that supports effective actions.

Working Group (WG) 17 provides a forum to discuss a wide variety of logistics analyses, including support to deployed forces in both major contingency and stability operational venues, logistics impacts on readiness, supply chain management, system reliability, designs for improved system maintainability, life cycle cost and operational effectiveness, support for joint operations with U.S. allies, inter-agency support, and reverse logistics. This list is far from exhaustive; papers that seek to solve important problems in other areas of logistics are valued also.

Especially of interest are new analytical approaches and tools for handling amorphous, hard-to-define, or long-standing problems, or applying existing techniques in areas that are usually considered more qualitative. Existing analytical techniques include mathematical modeling, statistical analyses, stochastic or deterministic optimization, forecasting, and simulation. We welcome analyses or analytical

tools that are completed work, particularly those with demonstrated impact, as well as “works in progress” – often the best aspect of the sessions is discussion, questions and feedback from your peers.

WG 18 – Manpower and Personnel

Chair:

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The individual and collective talents, skills and capabilities of the total force of active duty, reserve, civilian, contractor and interagency personnel are required to accomplish the mission and goals of our national security strategy. To succeed in an increasingly challenging environment, decision makers depend on a sophisticated human resource management system to access, recruit, train, assign, distribute, motivate, care for, evaluate, retain and separate personnel. Integral to this success is the analytical support the manpower and personnel research community brings to bear on the toughest personnel challenges facing civilian and military leaders.

In keeping with the theme of the 80th MORSS, “Expanding the Boundaries of the National Security Analysis” the Manpower and Personnel Working Group (WG) 18 seeks to embrace new technologies and research ideas, from both traditional and non-traditional sources of manpower and personnel analyses. We encourage the involvement of new communities in this important analytical area to boost the existing analytical power of the field. We seek individuals, who have innovatively addressed these challenges, to share high quality presentations that describe their completed work or work-in-progress. Presentations should be rigorous in content and address one or more of the following: requirements determination, manpower planning, recruiting, screening and personnel selection, measurement of personnel readiness, attrition, retention, compensation, compensation reform, assignments and distribution, performance evaluation, and other manpower and personnel issues. To generate discussion and share ideas, presenters seeking input on work-in-progress, techniques currently under development, and completed analyses/papers are encouraged to submit abstracts.

WG 19 – Readiness

Chair:

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Co-Chairs:

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Joseph J. Angello, Jr., OUSD (Readiness), Director, Readiness Programming and Assessment

Readiness takes on the new complexity of considering the capabilities of interagency and coalition partners, private and non-governmental organizations, and state and local authorities as the Department of Defense continues its transformation to meet global challenges that confront the nation in the 21st Century. Traditional readiness constructs must be rethought in order to provide efficient, cost effective, agile and dynamic organizations with expanded mission capabilities, including traditional and non-traditional roles both at home and abroad. Terminology such as rotational readiness, expeditionary forces, language and cultural capabilities, multiple service/component solutions, mission capability assessments, full spectrum operations, irregular warfare, and Stability, Security, Transition, and Reconstruction Operations (SSTRO), dominate Department discussions for the foreseeable future. Therefore, what tools we use to assess and manage organizations and individuals for the missions we face? Can we involve and assess interagency and coalition partner capabilities? How do we engage all of these diverse entities and perspectives in order to synergistically leverage collective readiness capabilities? What types of readiness analyses need to be developed for the 21st Century? This Working Group focuses on readiness capability assessment tools to help answer the "ready for what" question. It also focuses on organizations/force management/force generation, and all relevant materiel, training, and personnel readiness issues. We consider analytic techniques and tools that allow for real improvements in how we plan, manage, and assess the readiness of our organizations to meet real world missions. Papers on a wide range of subjects are welcomed and can be completed studies/analyses and/or works-in-progress.



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WG 20 – Analytical Support to Training and Education

Chair:

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Advisor:

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As the Armed Forces of the United States transform to meet the challenges of the 21st Century, they work toward a common frame of reference for joint force concepts, capabilities, and requirements. We have been a nation at war for the last decade and our forces are continually challenged in an uncertain and unpredictable strategic environment. The expansion of our national security boundaries requires that individuals, units and their staffs be trained and educated to meet the needs of the combatant commanders for all operations as well as emerging capabilities for future operations. Evolving trends within the national security environment highlight the importance of continuing to evolve training and education programs to meet our security challenges and to develop, sustain, and assess this challenge from a joint perspective in order to meet operational readiness requirements to respond to the security challenges faced in the long war. *Department of Defense (DOD) Directive 1322.18, Subject: Military Training* provides policy and guidance for the training of DoD personnel and the DoD components to support the operational needs of the combatant commanders. Training and education are key elements of readiness and national security. Readiness is “the ability of U.S. military forces to fight and meet the demands of the national military strategy.” Readiness is the synthesis of unit readiness, derived from the ability of a unit to deliver the outputs for which it was designed, and joint readiness, the combatant commander’s ability to integrate and synchronize ready combat and support forces to execute the assigned mission. Continued budgetary pressures demand we use the most effective and cost efficient methods of training and education to attain the necessary readiness to support combatant commanders’ mission requirements and capabilities. Our ability to develop and use new analytical processes, frameworks, metrics, and tools, as well as new ways to use the old methodologies, to help solve the problems facing commanders and the training communities, is an important aspect to improving force readiness and contributing to our national security analysts’ needs. We must ensure we develop methodologies to measure, quantify, and assess improvements in training and education to meet the commanders’ needs and our national security goals.

The 80th MORS Symposium offers an opportunity to review recent work, training concepts, and new training and education developments that address national security issues. We seek analytical presentations addressing any of the mission priorities and concerns outlined above. Both completed work and works-in-progress are welcome.

WG 21 – Experimentation

Chair:

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Dr. JJ Tsou, AFC2IC/Tactical Data Links -Enterprise, (757)225-1608, jj.tsou@langley.af.mil

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The Experimentation Working Group (WG) 21 will explore new ways to expand the boundaries of national security analysis by bringing together Service, government, academic, and industry experiment practitioners to share tools, methodologies, and lessons learned that can improve experimentation strategies and methods. The following topics are considered by WG:

- Designing credible experiments with limited resources
- Developing coherent strategies for campaigns of experimentation
- Developing meaningful metrics
- Implementing methods such as Design of Experiments (DOE)
- Accounting for small sample sizes
- Combining experiments and training exercises or field tests
- Addressing challenges with training participants
- Integrating simulation into experiments
- Reconciling data collection and player participation
- Analyzing results in a timely manner
- Addressing continually evolving experimental objectives
- Effectively sharing results and lessons learned.

The Experimentation WG solicits inputs and discussions from the analysts who are involved in designing, planning, executing, analyzing, and reporting the results of experiments addressing national security. Additionally, in order to understand and improve the entire process, participants from across the experimentation community will be included. This broader community includes the decision makers who develop and approve experiment programs and budgets; military Services and government staff agencies who are customers of experimentation results; members of the acquisition community who participate with experimental hardware or software; combat doctrine developers who provide experimental concepts and scenarios; military Service operational testers and modelers who use experiment data; military Service and combatant command trainers who provide field exercises and train the participants for field experiments; and military Service operational forces (i.e., “warfighters”) who support experimentation as participants and benefit from the results of effective experimentation.

The Experimentation WG will consider all venues for experimentation: field experiments, constructive simulation experiments, human-in-the-loop virtual simulation experiments, analytically assisted tabletop experiments, and wargaming.

Working Group 21 also sponsors the MORS Experimentation Community of Practice (COP), a group that meets throughout the year to continue discussing experimentation issues and achieve consistency across government, industry and academia.

WG 22 – Measures of Merit

Chair:

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Our nation is confronted with global enemies who dynamically adapt to strike at U.S. military forces and our Homeland where and when we least expect, jeopardizing our existence and our way of life. To mitigate this ongoing and ever-changing threat, our military forces continue to transform to best defeat these enemies in the modern operational environments. This adaptive military stance challenges the ability of traditional measures of merit (MOMs) to measure success. New MOMs are necessary to quantitatively assess the effectiveness of the adaptive combat plan for countering dynamic threats. While the U.S. continues to transform its forces to meet current and future needs, the analytic challenge is to develop appropriate measures that will assist decision makers and reduce the risks that U.S. military forces face in conflict.

The operations research (OR) community is uniquely well-poised to meeting this challenge. OR is a field that includes various tested and well-established methods for conducting analyses, as well as methods that are still being explored and discovered. One feature common to OR analyses is their reliance on quantifiable measures to gauge outcomes; OR within the military and national security communities is no different. This characteristic provides a strong foundation which the OR community can leverage to meet the challenge of developing appropriate MOMs for increasingly adaptive military and national security/responder forces.

The focus of Working Group (WG) 22 is integral to the theme of “Expanding the Boundaries of National Security Analysis.” WG 22 solicits papers that successfully use measures of merit to identify processes to ensure the transformation of our military forces will enable the U.S. to continue to shape the

international environment, and will reduce the risks our military and national security forces face. Papers should focus on, but are not limited to, the development of measurement space and the associated MOMs to support analyses and studies within the following focus areas:

- Joint acquisition
- Conducting operations in urban and restrictive environments
- Human Factors / social sciences
- Joint Force effectiveness and force allocation processes
- Intelligence, Surveillance, and Reconnaissance, and Situational Awareness
- Battle Command.

Both completed work and work-in-progress are welcome. Identifying open questions and related challenges will mark a very effective presentation, and draw engagement of the community-at-large.

WG 23 – Test and Evaluation

Chair:

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Test and Evaluation (T&E) is a dynamic and challenging field comprising military, government, and civilian organizations. T&E provides information that supports complex decisions regarding the development and acquisition of military systems.

The T&E Working Group (WG) 23 provides a forum for operations research analysts to examine topics, methodologies, analyses, innovations, and challenges pertinent to all aspects of planning, designing, executing, and reporting formal T&E in the Department of Defense (DoD) and other government departments and agencies, as well as industry.

The WG 23 brings together military, government, academic, and industry testers to share innovations and lessons learned in order to improve T&E strategies and methods. Possible topics for presentations include:

- Implementation of Design of Experiments (DoE) in T&E
- T&E of current acquisition programs
- Advantages and disadvantages of bundling test programs
- Observations of the Army Network Integration Evaluation (NIE) and its role in the T&E community
- Best practices for combining DT and OT
- Quick turn risk assessment techniques to inform the cost and confidence implications of reducing test and accelerating schedules to field faster
- Risk assessment to support pre-milestone (MS) A work to develop viable technology readiness, costs, and schedules
- Designing credible tests with limited resources
- Developing meaningful Measures of Effectiveness (MOEs) and Measures of Performance (MOPs)
- Use of small sample sizes
- Advantages and disadvantages of different test strategies
- Overlaying experiments on training exercises or field tests
- Impact of data collection on player participation
- Timeliness and duration of analyses
- Implementation and sharing of results/lessons learned
- Use of Modeling and Simulation (M&S) to stimulate Systems Under Test (SUT), as well as post trial analysis
- Techniques for communicating complex results to decision-makers.

The WG 23 solicits inputs and discussions from members of the T&E community involved in T&E planning, design, execution, and analysis. The T&E community includes the organization leaders who develop and approve T&E programs and budgets, customers, including service and government staff agencies, members of the acquisition community who participate with experimental hardware and software developers, combat developers who provide operational concepts and scenarios, modelers who use T&E data, and service operational forces who support T&E as participants.

Special consideration will be given to presentations discussing challenges of T&E in National Security. WG 23 encourages presentations about both completed work and work in progress.

WG 24 – Analysis of Alternatives (AoA)

Chair:

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The Analysis of Alternatives (AoA) is the analytic bridge between the Joint Capabilities Integration and Development System (JCIDS) and the DOD acquisition process. AoAs provide key support and critical data to decision-makers responsible for the expenditure of billions of US tax dollars. The primary focus of an AoA is to evaluate life cycle cost and operational effectiveness as they relate to identified defense capability shortfalls and gaps. An AoA is expected to illuminate capability advantages and disadvantages of each alternative; consider joint operational plans; examine sufficient feasible alternatives; document and analyze key assumptions, variables and sensitivities; as well as assess technology risk and maturity. Risk has become an increasingly important AoA consideration. During execution, AoAs serve as an educational forum for complex and often unique issues as they demand communication and understanding amongst decision makers, stakeholders, and study staff members at all levels.

Recent emphasis by OSD and JCS has highlighted several analytic challenges with which future AoAs need to come to terms. Specifically, expanding the breadth of the analysis, and improving the analytic insights in areas which have traditionally been “too hard to analyze”. There is also a need to consider all alternatives in relation to the Joint Environment, including stakeholders outside of DoD.

Working Group (WG) 24 strives to examine the intricacies of the AoA, materiel and non-materiel approaches to filling gaps and shortfalls, and the capability gap identification processes for producing decision quality analysis. Priority will be given to presentations on lessons-learned regarding study challenges (scope, depth, breadth, etc.) and methodologies utilized to overcome them. WG 24 is also focused on AoA preparatory work (including Capability Based Assessments (CBA) and pre-Materiel Development Decisions (MDD) analyses). Priority will be given to papers that present details of the analytical processes utilized that allowed for a broad range of analysis within constrained timeframes.

WG 25 – Cost Analysis

Chair:

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Expansion of the boundaries of national security analysis will succeed based on a keen understanding of the evolving national security environment. Political, budgetary and security realities require increasing scrutiny of costs and management of risks for development, procurement, and

operation of weapon and support systems. Successful competition for limited departmental funds requires system evaluations to include significant analysis of projected business cases for all program phases. Detailed affordability, risk, and capability assessments, always vital for sound decisions, are now absolute requirements. These assessments will have ever more far-reaching impact on decisions made during development, procurement and operations. Providing realistic total ownership cost (TOC) estimates for all phases of proposed systems, early enough in the design process to support trade-off decisions affecting life cycle costs and system effectiveness, presents a significant OR challenge. Working Group (WG) 25 will focus on these issues as part of the overall MORS effort to expand the boundaries of national security analysis.

System effectiveness or mission capability is a function of design, supportability, and technology. Answering the question, “What is the cost of that capability?” is not easy. The question takes on additional importance given the growing complexity of today’s systems, and the increasingly rapid pace of technological change. Given the new DOD focus on affordability, defined by the Undersecretary of Defense (Acquisition, Technology, and Logistics) as “cost effective capability,” we must develop methods of analyses that blend traditional OR techniques with those of cost analysis. Such methods are required to assess the true cost of capability in ways that make sense both to the warfighter and the budget office.

WG 25 seeks presentations that address these important concerns. All submissions or proposals relating to military economic analysis, the cost of capability, and related disciplines are welcome. Preference will be given to study results that incorporate creative uses of OR tools to develop improved cost estimates and analysis to support better decisions. Effective methods for presenting the results of complex operational analysis in a clear, concise manner are always of interest. WG 25 also solicits topics suitable for a panel discussion format, and recommendations of subject matter experts willing to participate in such discussions. Specific topics of interest include those that highlight OR contributions to expanding Cost Analysis scope and accuracy, such as:

- Cost and capability impact of technology insertion
- Projecting and managing costs for evolving threats, including terrorism
- Optimizing the management and replacement of aging infrastructure
- Portfolio analysis and decision support frameworks
- Costs and benefits of developing open standards and open architectures
- Costs and benefits associated with interagency operations, systems of systems, and network centric operations
- Maintenance and intellectual property issues of historical cost databases
- Streamlining the acquisition process.

Presentations may be work completed or work-in-progress.

WG 26 – Decision Analysis

Chair:

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Co-Chairs:

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Capt. Jeremy Jordan, USAF, Air Force Institute of Technology, (937) 255-3636, jeremy.jordan@afit.edu

Advisor:

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Decision Analysis as a discipline provides operations researchers with philosophy, theory, and methodology to address challenging, complex decision situations in a formal manner. It encompasses many procedures, methods, and tools that enable the analyst to model and evaluate the important aspects of a decision, with the goal of aiding the decision maker in making the best-informed decision possible in the allotted time. Within Working Group (WG) 26, emphasis has been placed on two general categories of practice: 1) the assessment of a decision maker's preferences in the evaluation of alternatives; and 2) the incorporation of uncertainty about the outcomes and about the information used in the decision. Additionally, decision analysis methods are being incorporated as components of multi-disciplined approaches, combining techniques such as mathematical programming, simulation, Bayesian networks, Markov decision processes, and machine learning.

WG 26 invites papers describing completed work or work in progress that develop innovative methods, models, and case studies in the use of Decision Analysis for national security and homeland defense analyses. In particular, WG 26 seeks papers that align with the following agenda of topics:

- Innovations in Decision Analysis Practice and Theory
- Modeling Risk in National Security Analyses
- Decision Analysis and Campaign Assessment at the Combatant Commands
- Acquisition Applications of Decision Analysis and Risk Management
- C4ISR Applications of Decision Analysis
- Modeling Human Decision Processes
- Large Data, Business Analytics, and Decision Analysis.

To ensure a fair evaluation of abstracts and to help authors distinguish themselves, we encourage authors to emphasize the decision-analysis aspects of their work, provide at least one published reference in their abstract submission, and link their submission to at least one of the agenda topics.

We look forward to hearing from you!



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WG 27 – Modeling and Simulation

Chair:

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Advisor:

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Modeling and Simulation encompasses a broad range of techniques employed by the national security operations research (OR) community to answer questions about strategy, doctrine, force structure, and systems. Working Group (WG) 27 seeks presentations that highlight unique and innovative approaches to modeling and simulation development, application, and verification and validation as well as unique applications of existing modeling and simulation tools and techniques. Special emphasis should be placed on applications of modeling and simulation to new or unique aspects of National Security problems, providing quantitative results to decision-makers. Our goal is to present a diverse mix of interesting analyses that cover a variety of operational issues and analytic techniques across the full spectrum of modeling and simulation. We seek papers that discuss the application of sound OR techniques from the joint strategic level down to system engineering level issues.

WG 28 – Operational Environments

Chair:

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Co-Chairs:

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Victoria Moore, US Army Corps of Engineers, vickey.d.davis@us.army.mil

Advisor:

Dr. Richard ("Rick") Shirkey, Army Research Laboratory (ARL), (575) 678-5470,
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The Operational Environments Working Group (WG) 28 provides a forum for discussions of the environment's role in the full spectrum of military and national security operations, from warfighting to non-adversarial crisis response (e.g., humanitarian assistance, disaster relief, or emergency response). The focus of WG 28 is the synergistic interaction of weather (atmosphere, ocean, space and terrain), human-constructed (physical infrastructure) and abstract (political, social, cultural, and economic) factors as they impact military, national and homeland security operations.

In keeping with DoD's Joint Vision 2020's purpose, WG 28 solicits thought-provoking presentations of studies, research and development, and experiments that describe, in broad terms, the human talent and operational capabilities that will be required for the joint force to succeed across the full range of military operations. These presentations are intended to offer insights into the challenges and opportunities that will confront national security analysts from the environmental perspective. We encourage presentations of works in progress as well as completed papers.



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WG 29 – Computational Advances in Operations Research

Chair:

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Co-Chairs:

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Mary McDonald, Naval Postgraduate School, (703) 634-9024, mlmcdona@nps.edu

Trey Vecera, The Johns Hopkins University Applied Physics Lab, (443) 778-0536, trey.vecera@jhuapl.edu

Advisor:

Otis Brooks, The Johns Hopkins University Applied Physics Lab, (240) 228-5842, otis.brooks@jhuapl.edu

The theme for the 80th Military Operations Research Society Symposium (MORSS), "Expanding the boundaries of National Security Analysis," accentuates the need to broaden the scope of national security operations research (OR) to encompass not just the typical analysis problems, but those more difficult problems that are not so easily addressed or solved. As analysts, we are challenged to develop solutions to the most critical issues facing our national security, both at home and abroad. The complexities of these challenges require innovative computational techniques to address the multiple domains represented by the well-known DIME/PMESII (Diplomatic, Informational, Military, and Economic / Political, Military, Economic, Social, Infrastructure, and Information) framework. Working Group (WG) 29 is focused on new and innovative computational capabilities and methodologies that can improve the ability of analysts to provide expanded assessments and recommendations to decision makers. This WG will focus on improving the computing infrastructure, by capturing enhanced development and utilization of techniques and innovative thinking, which will equip decision makers with new ways to handle the myriad complex decisions confronting them on a daily basis. WG 29 seeks presentations that delve into advances, concepts, methodologies, processes, and techniques that support analysis of the complex, multi-dimensional, multi-domain problems of both today and tomorrow.

The following are illustrative of computational advances: support to enterprise-level information analysis in an operational sense; advances in distributed interactive simulations, federations, and architectures; federation middleware; optimal model fidelity in federations; rapid scenario generation techniques to support broad exploratory analysis; parallel computing, including parallel algorithms and programming methods that enable parallel computing systems; databases and their manipulation; high-dimensional data mining/analysis; modeling of terrain, weather, and other environmental effects pertinent to simulations; data fusion; graphical user interfaces, iconic languages and related human-machine interface issues; modeling advancements in areas such as virtual reality processes and systems; and complex adaptive systems, artificial intelligence, and machine learning techniques as they pertain to OR.

The above may benefit the following applications: modeling and analysis of counter-proliferation, counter-terrorism, and counter-insurgency related scenarios, including information warfare; combat survivability analysis; modeling, simulation, and analysis of C4ISR systems; modeling

stability operations; consequence management and humanitarian assistance/disaster relief; course of action analysis, especially considering effects on non-combatants; mission area analysis; mission needs analysis; embedded training (transition from mission planning and rehearsal tools to real C4I system integration); management and analysis of large datasets; and stochastic search and optimization. WG 29 is interested in concepts under development and research, as well as proven applications and techniques utilized in emerging areas of interest.

WG 30 – Wargaming

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Wargames are used as one means of supporting senior Department of Defense and national security decision makers. Wargaming is also found in training curricula in military school houses, in businesses, and in university courses. Most wargames are structured to address specific issues, such as current or future National Security challenges. Their outcomes tend to be of the qualitative nature, but still of substantial interest to Defense leadership. There is an intense interest to apply quantitative tools to these games, so that analytical techniques can then be applied. During a MORS Special Meeting in October 2007, issues concerning wargame design, structure, data, information, and metrics, why and how modeling and simulation could be used in support of a wargame, and the integration of wargame results with external quantitative analyses were discussed and debated. During the June 2010 Symposium, the Working Group (WG) examined quantitative outputs from several different game designs.

Wargames are attractive to decision makers because of the human interaction between those who have a vested interest in the issues at hand. The narratives derived from a game are sometimes more important than the raw data. Relating these narratives to quantitative analysis is a challenge, but may reap immense benefits to the users of wargames.

The emphasis of WG 30 presentations is on game design and structure, information used in and data collected from different games, tools used to present information to players and to capture data, use of models and simulations to supplement game play, and techniques, methodologies, or processes that enable the use of external quantitative analyses after the game is completed. Factors that may be considered are the type of game, number of players, use of groups, use of a control cell, any technologies used during the game, data collection techniques, in-game analysis methodologies, or any post game

analysis methodologies. An emphasis for the 2011 symposium will be teaching new analysts these in game or post-game methodologies.

WG 30 is interested in ways to improve gaming to include immersion of the players into the game environment, the ability to rapidly adjudicate player actions, and the design of games to adapt to examination of new topics (new threats, environments, technologies) as they occur. The WG encourages the development of ways to provide quantitative analysis of a generally non-quantitative proceeding. The WG solicits innovative ideas that will spawn discourse and invite game designers to include “hooks” for those ideas in their game structure that will, in turn, provide decision makers with more data to consider post game. WG 30 encourages presentations on both completed work and work-in-progress.

WG 31 – Information and Cyber Operations

Chair:

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Information and Cyber Operations is a broad field, requiring a wide range of disciplines to support its analytical, operational, planning, testing, training, and experimentation applications. From social network analysis to digital signal processing, from individual bits to transnational populations, Information and Cyber operations require an interdisciplinary approach to define, understand and solve its tough problems. Of crucial importance is the ability to demonstrate the impact of Information and Cyber operations capabilities during peace, crisis, war, or operations other than war. Working Group (WG) 31 seeks to showcase analyses and associated papers that provide insight into these important areas, regardless of the technique or capability used. We seek analyses demonstrating the impact of Information and Cyber operations and information strategies upon adversary, friendly, and neutral organizations. Results of actual analyses and exercises represent the WG’s primary focus, but actionable decision support techniques applied to information and cyber operations are also welcome.

The WG will use as one starting point the Department of Defense (DOD) definition of Information Operations (IO) as defined by DOD Directive O-3600.01 (August 14, 2006, Incorporating Change 1, May 23, 2011): “Information Operations (IO).”The integrated employment of the core capabilities of Electronic Warfare (EW), Computer Network Operations (CNO), Military Information Support Operations (MISO), Military Deception (MILDEC), and Operations Security (OPSEC), in concert with specified supporting and related capabilities, to influence, disrupt, corrupt, or usurp adversarial



human and automated decision making while protecting our own.” The WG also recognizes that information and cyber operations efforts must also be globally integrated with actions taken by other instruments of national power, and as such must also consider Interagency, non-governmental, and Coalition partners, as well as potential opponent and neutrals across the full spectrum of conflict. Moreover, the heavy reliance upon information technologies and ensuing global integration have increased the importance of information and information superiority to the point that information technologies and information are becoming critical objectives for future conflicts.

The WG encourages submission of presentations relevant to the information and cyber operations areas outlined below. The submission may be finished work, work-in-progress, or ideas and concepts.

- Activities and analyses that demonstrate the integration of capabilities at the strategic, operational, and tactical levels of war to produce effective US Government responses
- Real-world applications of IO tools, techniques, and simulations
- Multidisciplinary approaches to defining and solving information and cyber operations problems
- Analyses of network operations that demonstrate the impact of information attack, defense, exploitation and assurance as well as on attack detection, and/or restoration across the spectrum of conflict
- Studies using tools applied to any of the core competencies described above
- Studies that examine the effects of attack, defense, and influence operations on friendly, adversarial, and/or neutral organizations
- Studies that provide insight into the use of offensive, defensive, and local and global influence information strategies during conflict and stability operations, and their resulting successes and failures
- Studies that deal with the interaction of information and cyber operations in dealing with a terrorist threat
- Symposia, games, exercises, experiments or acquisition testing that involved information and cyber operations, emphasizing the vulnerabilities of information-dependent organizations
- Development of modeling & simulation-based analysis tools that specifically target the Information and Cyber operations realm
- Analyses of historical examples of successful and unsuccessful information and cyber operations.

Presentations that describe development of information and cyber operations analysis tools, techniques, measures of effectiveness, damage indicators and damage assessment methods—or the refinement of existing ones—are welcome. We look forward to hearing from you!

WG 32 – Special Operations & Irregular Warfare

Chair:

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The challenges posed by transnational terrorists and the focus on irregular threats from defense strategy create an irregular warfare environment that highlights the importance of joint special operations mission areas. Irregular warfare is a warfighting philosophy, which seeks to achieve strategic objectives primarily by nontraditional, indirect, or asymmetric means and it is characterized by the following operations: military information support operations (formerly psychological operations), information operations, counter proliferation of WMD, counterterrorism, counterinsurgency, intelligence activities, computer network operations, foreign internal defense, and stability operations. Although irregular warfare continues to be a core competency of joint special operations forces, many organizations in the Department of Defense as well as other governmental agencies contribute unique capabilities to irregular warfare operations.

Organizations and stakeholders with interests in the irregular warfare arena will benefit from the analytical community in the areas of strategic decision making and policy determination using mission planning tools and analytical aids, simulations and analysis, and by systemic collection and dissemination of data and lessons learned from previous irregular warfare operations and interagency activities. These analytical capabilities include contributions from the social science disciplines, as well as from traditional national security operations research. The conduct of operations such as peacekeeping and peace enforcement missions, disaster relief and humanitarian assistance are also characterized by small scale operations, very focused with specific missions, and a lack of conventional mission effectiveness criteria. Working Group (WG) 32 includes these communities because they share many of the unique characteristics and analytical challenges as irregular warfare operations.

The WG seeks the participation of analysts who inform decision making related to special operations and irregular warfare at the strategic, operational, and tactical levels. General examples of WG 32 interest include (but are not limited to) dealing with the risk and uncertainty of diverse missions and functions, allocation of critical resources, and formulation and evaluation of policy and strategy decisions that affect current and future obligations of special operations forces. WG 32 is especially interested in serving as a venue for interagency analysis topics that are more transnational in nature and not usually viewed through the national defense prism. These topics can range from interagency coordination in dealing with threats from narcotics and organized crime, to the more traditional WG 32

analysis topics such as proliferation and terrorism. Presentations based upon completed work or work-in-progress are invited.

WG 33 – Social Science Methods and Applications

Chair:

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Working Group (WG) 33 is an interdisciplinary community of practice focused on the application of social science methods, models, and approaches to defense and national security challenges. This year's theme for MORSS, "Expanding the Boundaries of National Security Analysis," fits squarely with the interests of the WG. The variety of social sciences has the potential to add new and different perspectives to support the warfighter and to enhance national security. In a world filled with an expanding number of non-traditional threats, social scientific approaches become even more important to provide understanding of regimes and regime change, micro and macro behavior of populations, the evolution and adaptation of terrorist networks, the complex multi-faceted challenge posed by Transnational Criminal Organizations (TCO), and the dispersion of ideas through new mechanisms of communication (to name just a few). WG 33 will strongly favor proposals that reflect a scientific underpinning to social science approaches. In short, this implies that the scientific method forms the basis for the approach taken by researchers in WG 33, but does not imply that preference will be given to quantitative or mathematical approaches. Rather, we seek research that reflects an empirically-based approach to the development, testing, and refinement of falsifiable hypotheses. Our aim is to reward and promote sound analysis, rigorous study, and effective practice in support of the warfighter.

WG 33 welcomes submissions from a variety of fields, and will especially welcome those that span the range of social science disciplines including: demography, geography, anthropology, cultural studies, economics, political science and political economy, psychology, and sociology; to name just a few. Preference will be given to proposals that reflect a positivist approach to applied research, regardless of whether the approach is qualitative or quantitative. WG 33 is looking for methodological work that will advance the community's analytic capabilities for the complex and uncertain operating environments faced today.

Submissions must display the sound application of social science methodology and be relevant to defense or national security analysis, training, education, or decision-making at the tactical, operational, or strategic level. The following research areas illustrate topics of interest to WG 33, but social science-driven research in emerging areas not mentioned is certainly welcome.

- New approaches that could help shape and refine the evolution of the national security professionals' doctrine and application of counterinsurgency (COIN) and counter-terrorism (CT) to new and emerging threats based on lessons learned in Iraq and Afghanistan
- Projects which reflect unique and innovative approaches that recognize the need to discover, obtain, integrate, and smartly standardize the variety of socio-cultural data sources that form the basis for empirical social science
- Analytic approaches that reflect the strengths and weaknesses of social media and Web 2.0 technologies as an indicator of popular sentiment—as well as manipulation of such technologies by the enemy
- Analytic approaches and techniques which could be applied to the global threat posed by TCOs; this includes illicit financial networks, narcotics trade, human trafficking and human smuggling, kidnapping, illicit trade and weapons smuggling, and other related problems that directly threaten national security
- Approaches that provide social scientific support to planning and assessment of Information Operations (IO) and Military Information Support and/to Operations (MISO)
- Analysis of operations across the planning-execution-assessment continuum
- Novel application of social science methods to defense and security issues.

Presentations may be finished work, work-in-progress, or ideas and concepts.

WG 34 – Computational Social Sciences

Chair:

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Working Group (WG) 34 will examine the role of computational social sciences (CSS) in support of global situation awareness and operational analysis. Emphasis is placed on understanding how social science theories are implemented into computational models to understand and predict the structure, interconnections, dependencies, behavior, and trends associated with groups and actors from the strategic to the operational and tactical levels. This may include social behavior from the micro to the

macro levels, collected from sources with painstakingly precise fidelity to those with vastly varying confidence factors.

There is a need at all levels of military operations to understand and predict the motivations and influences underlying adversarial, non-adversarial, influencing, and unaligned behaviors; how these behaviors vary cross-culturally; and those human behaviors that extend across cultural boundaries. An understanding of these motivations and influences will be gleaned from inter- and multi-disciplinary advances that draw on approaches and methods from a wide range of social and human/behavioral sciences and are implemented in useful and accurate computational models. The melding of different types of socio-cultural interactions in terms of genre, modality, expressive richness, media, persistence, audience, latency, reliability, language, and context provide a canvas for provocative research and new understanding of the potential value proposition for such information in military operations. Further, the availability of both very large data sets of human social interaction and the informatics to process these interactions in novel ways, challenge us to develop automation to accommodate this volume, apply confidence levels to data and sources, and develop computational models that can accommodate such data volumes at scale.

This session solicits papers detailing the research, development, and military transition of technologies in the CSS domain as applied to the theme of “Expanding the Boundaries of National Security Analysis.” Selected papers shall address one or more of the following topics:

- Integrating hybrid CSS approaches for cultural understanding and/or modeling based on varying data quantity, fidelity, and confidence levels
- Addressing data and data processing tools to support CSS data collection, processing, and modeling to include model validation and verification
- Analyzing social networks, their inter and intra network relationships, and their integration with other types of networks to include logistic, financial, physical process, etc
- Visualizing data, tool, and model output
- Developing course of action and decision analytics that incorporate human socio-cultural and/or behavioral factors
- Forecasting human terrain such as sentiment or affinity analysis, geophysical analysis based on human social cultural behaviors, and assessment of micro and macro level conditions that support or inhibit behaviors
- Using social media or other open source data to support sociocultural analysis and automated model coding
- Training using CSS models and tools and mission rehearsal using human socio-cultural factors and models).

While strictly research-focused papers are solicited, preference will be given to papers that clearly identify how CSS research and technologies have been or are being applied to military domains or operations; or that propose how emerging CSS research and technologies can fit current or emerging DOD challenges especially those that include irregular warfare and violent extremism. We seek presentations based upon both completed work and work-in-progress.

Distributed Working Group Sessions

Distributed Working Group Sessions. Distributed Working Groups (DWGs) leverage topics covered by existing working groups, but have a thread to other working groups because of the more universal nature of the topic. DWGs have more material to cover than can be met by a single ninety minute Special Session and may have already been addressed by a Focus Session in the past. DWGs will identify existing WGs with which they have overlap of topics and will solicit presentations that will be given in Joint, themed sessions with the identified existing WGs in a sequential distributed fashion. DWGs will not schedule standalone sessions - all sessions will be hosted in existing WGs.

DWG 1 – Human Behavior and Performance

Chair:

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Traditionally, national security operations research has used conventional operations research techniques, where the system being analyzed is under control and results can be determined precisely. However, because the most important part of any system is the human operator, it is crucial that today's analysts incorporate human behavior and human performance variability into their analyses.

Human behavior forms the nucleus of national security effectiveness. Regardless of technological advances, the participants in the national security environment are, and always will be, a complex system composed of human and technical elements that must work together. Cognitive demands will grow despite requirements to the contrary. On the modern battlefield, individuals must perform the primary tasks of movement, target acquisition and engagement, and communication. Technology may confuse as often as it will support the warrior. Transformed services will force everybody – even the most junior – to think. We need to avoid the adverse impact that technology insertion and mission change can have on humans and their performance. Enhanced human behavior and performance are part of the integrated solution to the mission problem.

Representing and incorporating these factors adequately into models, simulations, and studies are sizeable challenges. Because of the extreme variability of the individual's behavior and performance on the modern battlefield, engineers and analysts may not be able to perform standard parametric or non-parametric analyses of the available data and must develop new tools to assist them.

The Human Behavior & Performance (HB&P) Distributed Working Group (DWG 1) is soliciting papers covering the following topics:

- What are the second-order effects of designing systems with high cognitive requirements for servicemen and servicewomen? Can we recruit/train/retain such individuals?
- Can training systems be developed that detect student-specific deficits so instructors may target training to individual needs? What are the individual differences in human performance? What about training effectiveness and human behavior?
- How do we effectively develop Human-in-the-Loop Experiments, Tests and Wargames, and obtain data on human performance as a variable of interest? How do we design surveys? Do we know how to conduct trained human observation? How can these data be better correlated with the more traditional "hard" data points we tend to collect (time to kill, time to detect, etc)?
- How do we incorporate fatigue, fear, morale, *esprit de corps*, and other features affecting humans in combat?
- How do warriors under direct attack deal with the variations between warriors facing warriors and warriors thousands of miles away from the battlefield (e.g., operating weapons via UAVs)?
- What are the factors that shape the decision process when it comes to personal choice? What set of incentives influences this decision making behavior and how might it be potentially shaped? What are the social components that affect decisions and communication and "stickiness" of those decisions? How does cognitive psychology fit into decision analysis?
- Are there models and simulations to analyze human abilities, cognition and behavior, human decisions, and human group decisions to help servicemen and women perform better? If so, how have they been used in practice?
- Can we create a human-centered approach in the design, acquisition, testing, and operation of human-machine interfaces? What about human considerations as the top priority in systems design/acquisition to reduce life cycle costs and optimize system performance?

The HB&P DWG is collaborating with to discuss these topics by developing potential joint sessions with other Working Groups (WGs), such as Manpower & Personnel (WG 18), Analytical Support to Training (WG 20), Experimentation (WG 21), Test & Evaluation (WG 23), Decision Analysis (WG 26), and Wargaming (WG 30). All DWG presentations will be in joint sessions with other WGs and Composite Groups (CGs).

The Human Behavior and Performance DWG encourages the submission of presentations and papers relevant to the areas outlined above. The submission may be finished work, work in progress, or ideas and concepts. We look forward to hearing from you!

DWG 2 – Unmanned Systems

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Unmanned systems technology and operations are changing almost faster than analysts can adapt. New unmanned aircraft systems (UAS), unmanned ground systems (UGS), and unmanned underwater vehicles (UUV) are being designed, produced, and deployed with great frequency. U.S. Army UAS have flown more hours in Operation Enduring Freedom than most fixed and rotary wing aircraft. In March 2011, U.S. Air Force unmanned aircraft surpassed 1 million combat operations. Its Predator and Reaper aircraft have tracked 19,000 targets. Even while fighting wars in Afghanistan and Iraq, the Air Force has had to send unmanned aircraft to aid disaster relief in Haiti and Japan, and help allies over Libya. UGSs on the battlefield provide critical intelligence, surveillance and reconnaissance data, and help counter improvised explosive devices. Ground robots are positioned to expand into armed missions in Afghanistan. UUVs received recent publicity in the capping of British Petroleum's Deep Water Horizon oil rig in the Gulf Oil Spill crisis. The U.S. Navy continues to examine UUVs for Intelligence, Surveillance, and Reconnaissance (ISR), mine countermeasures, anti-submarine warfare, and a host of other missions. Whether it's fighting the ongoing Global War on Terror or providing Disaster Relief, unmanned systems are finding greater and greater use in critical missions across the globe. It is these new and evolving systems, coupled with our rapidly changing landscape, which is Expanding the Boundaries of National Security Analysis.

Distributed Working Group (DWG) 2 seeks presentations addressing all aspects of air, ground, above water, and underwater unmanned systems. By sharing our ongoing work, we can become better analysts. The following areas promise to be especially important to future security analysis, and will be of particular interest this year:

- Analysis of current unmanned systems, their applications, and their successes

- Leading analytical approaches for UASs with long endurance (days) and extremely long endurance (weeks or more), both aerodynamic and aerostatic, for global response, maritime patrol, area surveillance, and other missions
- High Altitude/Near Space UASs (>60K ft), including airships
- Cooperation between manned and unmanned vehicles
- Assessment of available and planned C4ISR systems and their ability to support missions that unmanned systems will be expected to execute
- “Swarm” control of unmanned vehicles: controlling a group as a single unit or giving the group a general task with individual vehicles autonomously determining how to cooperate
- Optimal unit assignment of unmanned systems, both in numbers and echelon
- Employment of unmanned ground vehicles and very small unmanned aircraft vehicles in urban combat, particularly in security and clearing operations
- Weaponization of unmanned systems
- Use of unmanned systems for detection of improvised explosive devices (IEDs), mine detection and clearance, border patrol, harbor security, and communications relay
- Flexible operation of unmanned air vehicles in civil airspace, including “see and avoid” capabilities for avoiding other air traffic
- Modeling and analysis of unmanned systems reliability, availability, and maintainability
- Cost and operational effectiveness analysis due to the employment of unmanned systems.

The Unmanned Systems will collaborate with other Working Groups (WGs) to discuss these topics by developing joint sessions. These other WGs include: Chemical, Biological, Radiological, Nuclear and Advanced Explosives Defense (WG 2), Battle Management Command and Control (BMC2)(WG 6), ISR and Intelligence (WG 7), Land and Expeditionary Warfare (WG 11), Maritime Operations (WG 12), Air Warfare (WG 14), Logistics, Reliability, and Maintainability (WG 17), Manpower and Personnel (WG 18), Experimentation (WG 21), Measures of Merit (WG 22), Test & Evaluation (WG 23), Analysis of Alternatives (WG 24), Cost Analysis (WG 25), Modeling and Simulation (WG 27), Operational Environments (WG 28), and Special Operations and Irregular Warfare (WG 32).

In keeping with the dynamic nature of the unmanned system community and this year’s symposium theme, Expanding the Boundaries of National Security Analysis, DWG-2 welcomes presentations describing ongoing analyses, data collection, problem formulation, metric definition, operational experience, and cost effectiveness and mission effectiveness analyses. The submission may be finished work, work-in-progress, or ideas and concepts. We look forward to hearing from you!

DWG 3 – Interagency Collaboration and Cooperation

Chair:

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In the ten years since “9/11” there has been a sharp increase in the importance of effective interagency coordination across the spectrum of national security, in both domestic and international environments, in areas such as public safety, security, crime prevention, reconstruction and stability of nations and response to natural disasters. Coordination of distinctly different organizational missions and processes and establishing common understanding of objectives and measures are essential for efficient and safe interagency responses to all types of threats. Operations Research (OR) offers methods and techniques to make complex interagency relationships easier to understand and to offer solutions that enable more efficient and effective decision making in these environments.

The work done through MORS events over the last three years has laid a foundation for investigating ways that OR methods and tools can improve the processes and outcomes of much-needed interagency collaboration and cooperation. This Distributed Working Group (DWG) will draw upon experience from established Working Groups (WGs) and Composite Groups (CGs) whose foci are in more concrete problem sets. Viewing those issues through the lenses provided by interagency priorities will bring a new layer of understanding to how to apply OR methods from these problems sets to interagency problems. Conversely, those involved in the interagency world can be exposed to problem-solution sets developed within these established WGs and CGs. The cross-fertilization of perspectives broadens the pool of prospective solutions.

This DWG will coordinate with other WGs and CGs to:

1. Focus discussion on how OR techniques can better support decision makers in interagency and multi-agency environments and cross-feed these techniques and/or decision models to other communities.
2. Identify the tools, techniques and skill sets desired and/or needed for OR analysts to work effectively in interagency/multi-agency environments.
3. Develop, identify and test OR methods and techniques to be used, or that are being used, in interagency/multi-agency environments.
4. Provide reports and presentations of results and recommendations to be used by the Society, its Sponsors and affiliates.
5. Continue to refine understanding of the various environments in which interagency/multi-agency interaction is required for decision making. Areas already identified include:

- a. Inter-government and cross-agency including NGOs (foreign and domestic)
- b. Connection to local law enforcement and responders through DOJ
- c. Relevant private sector relationships.

We seek discussion, papers and presentations in the following general areas and all DWG presentations will be in joint sessions with other WGs and Composite Groups (CGs).

- Domestic and International
- Security and Stability
- Planning - Steady State
- Planning - Crisis Response
- Intelligence, Homeland Security, etc.
- Organizational “Health” for Cross-Agency Collaboration and Analysis

DWG 4 – Red and Blue Teaming

Chair:

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One of the distinguishing features of Military Operations Research (OR) is that it is explicitly about decision-making in the presence of a harmful adversary. Military OR analysts have traditionally used a variety of techniques to frame, understand, and advise adversarial decision-making. Two of these areas of study are *game theory* and *wargaming*.

Military planners also have a long history in the use of “red teaming” to find system or operational vulnerabilities, along with corresponding “blue teaming” to mitigate these vulnerabilities. While often achieved through simulated and/or role-playing exercises, Military OR analysts are finding novel ways to integrate these strategic interactions into their analyses, sometimes leading to novel models and/or mathematics. In some cases, this type of planning goes by the title of “mission assurance,” while in others it is called “resilience.”

Following a successful Focus Session at the 79th MORS Symposium, we adopt the following distinctions between these techniques.

- *Game Theory* involves the analysis of player interactions in which the rules and assumptions are well-defined and clearly specified.
- *War Gaming* involves essentially a real-time, role-playing interaction with (an)other human player(s), often involving adaptation.
- *Red Teaming* involves hypothetical interactions that are useful for uncovering and challenging the assumptions, rules, and strategies of a potential future engagement.

While game theory and wargaming are well-represented at MORS Symposia, the adversarial perspective often used in red teaming exercises has received considerably less attention. We believe that there is a significant and diverse community of practitioners who have interest and need for these techniques.

The Red and Blue Teaming (Red-Blue) Distributed Working Group (DWG) 4 provides a forum for presentations and discussions about the latest modeling and analysis techniques associated with the use of red and blue teaming to address national security challenges.

The Red-Blue DWG will collaborate with other Working Groups (WGs) to develop joint sessions that bring the much-needed adversarial perspective often used in red teaming exercises. We anticipate strong synergy with Composite Group C on Joint Warfare, especially Maritime Operations (WG 12), and the following WGs: Chemical, Biological, Radiological, Nuclear and Advanced Explosives Defense (WG 2), Infrastructure Analysis, Protection and Recovery (WG 4), Homeland Security, Homeland Defense, and Civil Support (WG 5), Computational Advances in Operations Research (WG 29), Wargaming (WG 30), Information and Cyber Operations (WG 31), and Special Operations & Irregular Warfare (WG 32). The Red-Blue DWG will also include collaboration with an emerging Risk Management Community of Practice (COP), and have sessions on advances in Red Teaming methods with recent examples of applications.

The Red-Blue DWG solicits presentations covering recent developments in the techniques and applications of Red-Blue Teaming. These can be case studies, novel models, or analysis techniques. Topics that help to articulate the “best practices” of red teaming analysis are particularly encouraged.

Focus Sessions

Focus Sessions (FS) consist of two or more working group sessions during the Symposium focused on a particular new or as-yet-unsatisfied area of interest to the membership. A Focus Session will occur if it improves the quality of the program for the Symposium attendees. Topics for Focus Sessions at a particular Symposium will be proposed via the potential FS Chair and / or the WG/CG Coordinator to the Symposium Program Chair, and hopefully in time for inclusion in the Announcement and Call for Papers. It is not mandatory for any Focus Session to occur at the Symposium. The number of Focus Sessions will vary each Symposium year. Focus Sessions will generally be held for one year and then transitioned into the MORSS Working Group structure. The WG/CG Coordinator and Program Chair may approve additional year(s) of a Focus Session. Presenters will submit proposed papers for Focus Sessions through the Online Abstract Database in response to the Announcement and Call for Papers.

FS 1 – National Security Risk Management

Chair:

Dr. Benjamin Fransen, Office of Risk Management and Analysis, U.S. Dept of Homeland Security, (202) 343-1647, benjamin.fransen@dhs.gov

Co-Chairs:

Dr. Steve Bennett, DHS Risk Management and Analysis Directorate, (202) 343-1740, steve.bennett@dhs.gov

Dr. Isaac Maya, Center for Risk and Economic Analysis of Terrorism Events (CREATE) University of Southern California, (213) 740 3863, imaya@usc.edu

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Events such as the 911 terrorist attacks, the recent U.S. financial collapse and the BP Gulf of Mexico oil spill highlight the need for improvements in our ability to identify, assess, and effectively manage risk in many diverse domains. Perhaps nowhere are the challenges of risk management more complex than in U.S. National Security. The U.S. Departments of Defense (DoD) and Homeland Security (DHS) face unusually difficult risk management challenges due, in large measure, to the uncertain and dynamic nature of today's international geopolitical environment, the proliferation of lethal advanced technology, and the diverse array of hazards and threats, which they can combine to present.

DHS' recent first-ever Quadrennial Homeland Security Review (QHSR) noted that "ultimately, homeland security is about effectively managing risks to the Nation's security." Similarly, the National Defense Strategy (2008) acknowledges that "implementing the National Defense Strategy and its objectives requires balancing risks and understanding the choices those risks imply." Neither department has nearly the resources it would like to have to comfortably address all the hazards and risks facing our country. Furthermore, elimination of risk is an unobtainable goal regardless of the



resources that might be dedicated to achieving it. As both the National and Homeland Defense Strategies make quite clear, we must learn to accept and live with some risk. The challenge facing the leadership of these important national security organizations is to focus their resources on those risks that present the greatest danger to our society and way of life. The importance of getting these decisions “right” is only heightened by the reality that both departments face significant budget pressures due to current U.S. economic conditions.

This Focus Session (FS) 1 will address a variety of complex challenges facing national security leaders responsible for making risk-informed defense and homeland security resource allocations that make our nation safer and more secure. Speakers from the DoD, DHS, from across the defense and homeland security communities and academia will present working group participants with valuable insights into current risk management issues they face, such as assessing terrorism threats, dealing with uncertainty in threats, vulnerability and consequence assessments, balancing risk across a range of threats and hazards, understanding and communicating “acceptable risk”, and operationalizing the concepts of deterrence and resilience and their roles in national security risk management. The goal of the FS 1 is to capitalize on the collective experience and expertise of the participants and community to identify new national security risk management ideas and approaches.

Special Sessions

As with past symposia, the 80th MORSS will include a series of Special Sessions covering a variety of topics of interest to the MORS community. If you are interested in submitting a topic, please contact Donna Blake, Special Sessions Chair, at (703) 967-5214 or via email at donna@bluestormtec.com.

Poster Sessions: Excellence in Analysis!

The 80th MORSS provides a great opportunity to see great analysis. During the 80th MORSS at the United States Air Force Academy, we plan to continue the successful Poster Session during the ever-popular MORS Membership Reception Monday evening and Welcome Mixer Tuesday evening. To add even more intellectual hors d'oeuvres to these events, we expect to offer presenters a “poster paper” to showcase their work either in addition to, or in place of, the usual working group presentations. We hope that the poster session will provide wider audiences for presenters sharing their projects. We will also display your poster throughout the 80th MORSS in a commons area. By displaying posters at the Reception and Mixer, and in the commons area we will provide additional opportunities for learning, collaboration and peer review. Simply submit your abstract online through the 80th MORSS website. Be sure to select “Poster” on the abstract submission page. If you have ideas, questions or offerings, please contact the Poster/Demo Coordinator, Otis Brooks via email at otis.brooks@jhuapl.edu.

Demo Sessions: Flaunt Your Toolkit!

Have an intriguing model or application? As usual, we are offering presenters the chance to demonstrate software, simulations, databases and other tools at the United States Air Force Academy venue in Colorado Springs. If you have a tool you have developed or you can showcase an interesting application



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in an otherwise available tool, we invite you to demonstrate it to the MORS community! While many demos have historically been simulations, we would like to widen the search with your interesting applications of spreadsheets, modeling environments, and data collection and analysis technologies. This is also a great opportunity to supplement your working group presentation with a demonstration of your analysis tools. We are hoping to make demonstrations available in common areas for attendees to stop by at their leisure to admire your handiwork. Plans are still being developed, but look for more details on the MORS website, in the Phalanx, and in future Symposium announcements. Simply submit your abstract online through the 80th MORSS website. Be sure to select "Demo" on the abstract submission page. If you have ideas, questions or offerings, please contact the Poster/Demo coordinator, Otis Brooks via email at otis.brooks@jhuapl.edu.



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Tutorial Sessions Call for Abstracts

Abstracts are requested for the 80th MORSS Tutorial Sessions. In accordance with the 80th's theme "Expanding the Boundaries of National Security Analysis," we are looking for tutorial presentations which provide instruction on topics relevant to the MORS Sponsor services. As in past years, the 80th Tutorial Sessions will include presentations covering the biographical OR historical figures, military wargaming, modeling and simulation, OR applications, mathematical and statistical techniques, and analyst practices and ethics. Interested in submitting a topic or an abstract? Please contact Lisa Kaiser, Tutorial Chair, via email at lisa.m.kaiser@us.army.mil.

Upcoming MORS Meetings

12 - 14 December 2011

OR Methods in Support of Countering Transnational Threats

Liberty Crossing, Tysons Corner, VA

(Classified)

23 - 26 January 2012

Joint Framework for Measuring C2 Effectiveness

JHU Applied Physics Lab, Laurel, MD

(Unclassified)

19 - 22 March 2012

Analytic Dynamics of Deterrence and Non-Proliferation

The Navy Yard, Washington, D.C.

(Classified)

11-12 April 2012

Education & Professional Development Colloquium

United States Military Academy, West Point, NY

(Unclassified)

April 2012

Analytics of Unmanned Aerial Systems

Location to be announced

(Classified)

11-14 June 2012

80th MORS Symposium

(Classified - US Only)

"Expanding the Boundaries of National Security Analysis"

United States Air Force Academy

Colorado Springs, CO

David Rist Prize - 2012 Call for Entries

David Rist Prize: The Rist Prize recognizes the practical benefit sound operations research can have on “real life” decision making and seeks the best implemented military operations research study from those submitted in response to this 2012 Rist Prize Call for Entries. This call solicits abstracts with letters of endorsement for *implemented* recommendations from studies or other operations research-based efforts, e.g., analyses, methodology improvements, that influenced major decisions or practices. Entries for individuals or teams submitted in response to this call will be eligible for consideration for the Rist Prize. There are two cash prizes that may be awarded: \$3,000.00 for first place (i.e., Rist Prize winner) and \$1,000.00 for honorable mention. To be considered:

- ❖ An unclassified abstract and letter of endorsement for the *implemented* recommendations from the study must be submitted to the MORS office and postmarked no later than **Monday, 6 February 2012**.
- ❖ The abstract cannot be longer than 3 pages (8.5” by 11”, single sided, 10 point type minimum, .75” margins all around minimum).
- ❖ The letter of endorsement must be signed by an official at a Flag/General Officer, Government SES, or company VP level (or equivalent) from the organization using the results of the analysis. The letter of endorsement must address at a minimum:
 - ❖ *The importance of the problem*
 - ❖ *The contribution of the insight or solution*
 - ❖ *The impact of the result of the analysis*

Please send the unclassified abstracts and a letter of endorsement to 80MORSS@mors.org, and include a completed MORS Abstract Disclosure Form 109 A/B. All forms and instructions are located on the website; click on the Rist Prize link at www.mors.org.

From those entries submitted, the judges will select 3-5 finalists on or about **Friday, 24 February 2012**.

If selected as a finalist:

- ❖ A mentor will be assigned by MORS.
- ❖ An annotated briefing must be prepared and submitted no later than **Thursday, 19 April 2012**. All presentations will require a Disclosure Form 712 A/B. Classified submission information and a MORS Presentation Disclosure Form 712 A/B are available online.
- ❖ The finalists will be invited to present their briefing on the **Monday** during the 80th MORSS (**11 June 2012**, at the Symposium in Colorado Springs, CO). Each finalist will be allotted one (1) hour to present – which includes time for questions and answers. This session will be open to all MORSS attendees. During this session judges will ask questions as appropriate. Following this session, the judges will select the Rist Prize winner and the honorable mention.

The Rist Prize winner and honorable mention will be announced at the 80th MORS Symposium plenary session on the morning of **Tuesday, 12 June 2012**.

Rist Prize Criteria

To be eligible, an individual or team must submit a presentation that at a minimum meets the following criteria:

- ❖ Be an original and self-contained contribution to systems analysis or operations research that has been implemented.
- ❖ Provide recognizable new insight into the problem or its solution.
- ❖ Have an impact on major decisions.
- ❖ Be used by a client organization and have letter(s) of endorsement from a GO/SES/Executive in the client organization so stating. Client organizations are defined as a Government agency or Laboratories, Industry activity, Academic Institution, or other user of the results of operations research.

Eligible study presentations are judged according to the following criteria:

Professional Quality

- Problem definition
- Citation of related work
- Description of approach
- Statement of assumptions
- Explanation of methodology
- Analysis of data and sources
- Sensitivity of analyses (where appropriate)
- Logical development of analysis and conclusions
- Summary of presentation and results

Contribution to Military Operations Research and Major Decisions

- Importance of problem
- Contribution to insight or solution of the problem
- Power of generality of the result
- Originality and innovation
- Contribution of the study to the decision

Symposium Caveats

- ◆ The Military Operations Research Society does not make or advocate official policy. Matters discussed or statements made during the symposium are the sole responsibility of participants involved.
- ◆ All attendees and participants are expected to submit requisite attendance forms and to pay the normal registration fees unless specifically waived by the MORS President.
- ◆ Acceptance of an invitation to present a paper in a session at MORSS implies an obligation by the speaker to attend the symposium, and to submit a MORS Disclosure Form #712A/B before the deadline.
- ◆ Security clearances must be sent in writing using MORS Security Form #226A/B. MORS does not accept phoned-in clearances.

The Society retains all rights regarding final decision on the content of all publications of the 80th MORSS.

Approved:



Mr. Herbert S. Cupo
Contracting Officer's Representative



Ms. Trena Lilly
President