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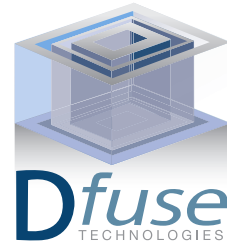
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CRITICAL ISSUES IN C4I

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C4I & Cyber Center

**AFCEA-GMU C4I and Cyber Center Symposium
Critical Issues in C4I
Technology Challenges in Defense and Intelligence**

**May 24 – 25, 2017
George Mason University Johnson Center, Fairfax, VA**

SYMPOSIUM GUIDE

8:00 a.m. – 8:55 a.m.
Registration and continental breakfast

8:55 a.m. – 9:00 a.m.
Welcome
Dr. Kenneth S. Ball
Dean, Volgenau School of Engineering
George Mason University

Dr. Mark Pullen
Director, C4I and Cyber Center of Excellence
George Mason University

9:00 a.m. – 10:00 a.m.
Keynote Address: The Challenges of Building and Transitioning Increasingly Autonomous Systems
Dr. Paul D. Nielsen
Director and Chief Executive Officer
Software Engineering Institute, Carnegie Mellon University

Autonomous functionality is increasing in systems and products. From drones to self-driving cars, from voice controlled devices to Watson, autonomy is increasing. The effective transition of increased autonomy depends upon trust — trust that these systems will be safe, trust that they will have appropriate cybersecurity, trust that they will perform within ethical boundaries. Establishing trust for complex systems is hard. Establishing trust for non-deterministic systems and for systems that continuously learn is even more challenging. Managers, chief engineers, and boards need to be aware of these challenges and strategies to overcome them.

10:00 a.m. – 10:30 a.m.
Coffee break *(exhibit area)*   Sponsored by:
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10:30 a.m.– 12:00 p.m.
Session 1: Modernization of the Global C4ISR Enterprise
Chair:
Ki Lee
Principal, Booz Allen Hamilton

To support today's Mission/Operational challenges, a new approach is required in developing C4ISR Systems. Today's modern C4ISR Systems need to address a broad range of challenges including processing an ever-increasing amount of data, technical and mission interoperability, resiliency from cyber-attacks, and ensuring support to the tactical edge. This panel of technical leaders across representative Services and Combat Support Agencies will share their challenges, solutions, and lessons learned.

1 – Experience developing large complex software solutions to very complex business problems in very complex organizations
Joaquin Martinez de Pinillos
Battlespace Awareness & Information Operations PMW 120, Program Executive Office Command, Control, Communications, Computers and Intelligence (PEO C4I), Space and Naval Warfare Systems Command (SPAWAR)

2 – NEXGEN Tactical C4ISR – Army
Alan Hansen
Division Director, Intelligence and Information Warfare Directorate, U.S. Army Communications-Electronics Research, Development and Engineering Center

3 – Commercial Technologies and Approaches to Modernizing C4ISR
David Mihelcic
Federal Chief Technology and Strategy Officer, Juniper Networks and former Chief Technology Officer, DISA

12:00 p.m. – 1:00 p.m.
Lunch *(on your own)*

1:00 p.m. – 2:00 p.m.
Keynote Address: Moving the Nation Forward in Spectrum Usage - Critical Enabler for the U.S. Economy and DoD
Maj Gen Robert E. Wheeler, USAF (Ret.)
former Deputy Chief Information Officer for Command, Control, Communications/Computers (C4) and Information Infrastructure Capabilities
Office of the Secretary of Defense

Outlining a national approach to spectrum utilization for both the U.S. *economy and the federal government, this session will also address how to move forward both from a policy and technical perspective in spectrum usage and capability.*

2:00 p.m. – 2:30 p.m.
Coffee break *(exhibit area)*   Sponsored by: **NORTHROP GRUMMAN**

2:30 p.m. – 3:30 p.m.
Session 2: Military Simulation
Chair:
Dr. Mark Pullen
Director, C4I and Cyber Center of Excellence
George Mason University

1 – Breakthroughs in Military Simulation
Dr. Michael R. Hieb
Research Associate Professor, C4I and Cyber Center of Excellence
George Mason University

2 – Government Solutions to the Optics of ISR
LTC Chad Bates, USA
PhD candidate
George Mason University

3:30 p.m. – 4:30 p.m.
Session 3: SCADA/IOT Panel
Chair:
Dr. John H. Saunders
Principal Cyber Security Engineer
The MITRE Corporation

This panel will focus on innovative & emerging solutions and remaining challenges in the cybersecurity of industrial control systems ICS/SCADA. Representatives from government and infrastructure providers will talk about major efforts that are providing greater levels of protection for our Critical Information Infrastructure. New levels of collaboration, technology that reaches well beyond current solutions, and the generation of new resiliency tactics will be offered. Remaining challenges for work in both government and industry will also be addressed.

1 – Generation of cyber range requirements and the DoD processes and integrate capabilities needed to systematically track, analyze, secure and report facility energy and related data
Daryl Haegley
DoD Program Manager
Office of the Assistant Secretary of Defense for Energy, Installations and the Environment

2 – Artificial Intelligence, Decision Support, and Cybersecurity of Critical Infrastructure
Dr. John H. Saunders
Principal Cyber Security Engineer
The MITRE Corporation

3 – System integrator for Industrial Control Systems (ICS) for 26 years providing SCADA systems for utilities, industrial and chemical processes
Craig Lightner
System Integrator, Industrial Control Systems (ICS)
Washington Gas

4 – Incident response for cyber-attack of critical infrastructure and coordinates isolation, eradication, and forensics for cyber-related event on U.S. industrial control systems
Jonathan Homer
Cyber Security Analyst
U.S. Department of Homeland Security

4:30 p.m.
Networking reception *(exhibit area)*

CONTINUING EDUCATION

Some sessions have been approved by CompTIA and/or GIAC for continuing education in support of cyber security certification maintenance.
Event attendance may also satisfy other continuing education requirements such as those for (ISC)2, National Contract Management Association (NCMA), Project Management Institute (PMI), GAGAS, and Defense Acquisition Workforce continuing education and/or certification maintenance requirements. Please contact the appropriate oversight organization for determination.

8:00 a.m. – 8:55 a.m.
Registration and continental breakfast

9:00 a.m. – 10:00 a.m.
Keynote Address: DARPA Collaborative Spectrum Grand Challenge
Paul Tilghman
Program Manager, Microsystems Technology Office (MTO)
Defense Advanced Research Projects Agency (DARPA)

As Program Manager for the DARPA Spectrum Collaboration Grand Challenge, Mr. Tilghman has the premise that collaborative use of spectrum can make this scarce resource more available to everybody. He will begin his talk with an overview of the DARPA Grand Challenges, including the Robotics and Cyber Challenges, and will include insights from his expertise in the areas of electronic warfare and software defined radios.

10:00 a.m. – 10:30 a.m.
Coffee break *(exhibit area)*   Sponsored by: **NORTHROP GRUMMAN**

10:30 a.m – 12:00 p.m.
Session 4: Cloud Issues in DoD
Chair:
Dr. Allan Mink
Managing Partner
Systems Spirit

The panel will discuss the current state of DoD Cloud, key decision factors for migrating to the Cloud, the current State of Cloud hosting and identify hurdles and technical solutions.

1 – The State of Cloud in DoD Today
John Hale
Chief, DISA Cloud Portfolio and
Defense Information Systems Agency (DISA)

2 – Challenges in Migrating Legacy Applications to the Cloud
Frank Konieczny
CTO
United States Air Force (USAF)

3 – Collaboration Pathfinder: A DoD Cloud Success Story
Robert Foster
Deputy CIO
Defense Logistics Agency (DLA)

4 – Migrating to the Cloud: The Contractor's Perspective
Jason March
Vice President
Natoma Technologies

5 – Enabling Cloud: The Technology Vendor Perspective
Ted Brunell
DOD CTO
Red Hat

12:00 p.m. – 1:00 p.m.
Lunch *(on your own)*

1:00 p.m. – 1:45 p.m.
Plenary Discussion: A New Approach to Industry - Government Dialog
Introduction:
Amy Fadida
A.M. Fadida Consulting

Speakers:
David Bridgeland
Hanging Steel Productions

Brian Seagrave

This talk will explain how Open-book Modeling & Simulation enables buyers of solutions for complex systems to understand the changes that will have the greatest impact towards their objectives; and how this method enables industry to craft, test, and present alternative applications of their offerings to resolve government requirements – during the market survey phase of procurements.

1:45 p.m. – 3:00 p.m.
Session 5: Secure Mobility Challenges
Chair:
Anitha Raj
President
ARAR Technology

Security and hacking trends change overnight and how do we take proactive steps to eradicate or mitigate the vulnerabilities? For all the government and industry more and more organization are moving towards securing the mobile computing environment whether it is for internal mission, public applications, or defending our nation. The role of mobility is driving workplace efficiency, flexibility, and this transition is leading to more challenges for the safety and integrity of government data. How can we be smarter to secure mobility and outsmart the bad ones?

Moderator:
Mike Wilkerson
Senior Director, End User Computing
Federal VMware, Inc.

1 – Enabling Mobility Challenges
Rob Anderson
Director, DoD Mobility Solutions, Cyber and Biometrics Division
IBM GBS

2 – Higher Learning Needs for Security Capabilities in Mobility
Rick Walsh
Chief of Technology and Business Processes, Program Manager for Mobile
Cybersecurity Directorate
Office of the CIO, U.S. Army

3 – Mobility Product Security Certification Processes
Greg F. Youst
Chief Mobility Engineer, Mobility Division, Cyber Directorate
Defense Information Systems Agency (DISA)

4 – Road to Secured Mobility in Defense & Intel
Lawrence Taylor
AVP Sales, Mobility Center of Excellence
AT&T Global

3:00 p.m.
Symposium Close

EXHIBITORS

ASM Research
www.asmr.com

GMU/C4I Cyber Center
www.c4i.gmu.edu

Prediction Systems, Inc.
www.predictsys.com

Unanet
www.unanet.com

Consortium Management Group
www.cmgcorp.org

GSA
www.gsa.gov

SPEC Innovations
www.specinnovations.com