

# CLASSIFIED SESSIONS

**PLEASE NOTE: All Classified attendees must check in at the classified bag check each morning.**

The MILCOM 2007 Team would like to acknowledge the Unclassified and Classified Technical Program Session Organizers and Chairs for their efforts in organizing the technical program. In addition to the individuals listed, we would like to thank the many members of the government, academic and industrial technical communities who contributed to the technical program through their careful reviews of the technical paper submissions.

## MONDAY, 29 October 2007

### C-1

#### Network Architectures

Monday

9:30 a.m.–noon

Sun Ballroom A

The Network Architectures session looks at existing and potential architectures for achieving integrated, flexible, and adaptive networks.

**Session Chair:** Dale Wright, *Harris Corporation*

#### C-1.1 2005 OIF Communications Architecture and Bandwidth Changes Since OIF JCCO

Dr. Robert M. Rolfe, *Institute for Defense Analysis*

Herbert R. Brown, *Institute for Defense Analysis*

Dr. Serena Chan, *Institute for Defense Analysis*

#### C-1.2 2004 U.S. Pacific Command Tsunami Relief Communications Architecture

Dr. Robert M. Rolfe, *Institute for Defense Analysis*

Herbert Brown, *Institute for Defense Analysis*

Dr. Serena Chan, *Institute for Defense Analysis*

#### C-1.3 Realizing the Joint Tactical Airborne Network With the F-22 As Lead Platform

Roderick J. Humphreys, *The MITRE Corporation*

#### C-1.4 Exploiting Artificial Intelligence for Tactical Network Optimization: SAPIENT REFLEX

Alefiya Hussain, *SPARTA, Inc.*

Andrew Purtell, *SPARTA, Inc.*

Michael Elkins, *SPARTA, Inc.*

Jay Jacobs, *SPARTA, Inc.*

Stephen Schwab, *SPARTA, Inc.*

James Horning, *SPARTA, Inc.*

Elisa Kendall, *Sandpiper Software*

Sue Rho, *Sandpiper Software*

Deborah McGuinness, *Sandpiper Software*

#### C-1.5 Parameter and Direction Estimation of QAM Emitter for ELINT, Cognitive Radio, and MANETs

G.R. Dattatreya, *Rockwell Collins*

### C-2

#### SATCOM—Architecture and Design

Monday

9:30 a.m.–noon

Sun Ballroom C

Explore SATCOM Architecture and Design in this session which addresses the innovations in emerging architectures and design for satellite communications systems.

**Session Chair:** Dr. John Roach, *Harris Corporation*

#### C-2.1 Wideband and Protected Navy Satellite Communications

Kurt A. Fisco, *Navy PEO CAI PMW 170*

#### C-2.2 Evolution of Advanced EHF (AEHF) to Transformational Satellite (TSAT) Communications

Arthur Einhorn, *The Aerospace Corporation*

Maurice A. (Mak) King, *The Aerospace Corporation*

Michael Riccio, *The Aerospace Corporation*

LtC Patrick Morrow, *AF Military Satellite Communication Space Wing*

#### C-2.3 Investigation of Vehicle Motion Dynamics for SATCOM On-The-Move

J.J. Hillger, *MIT Lincoln Laboratory*

J.T. Delisle, *MIT Lincoln Laboratory*

P.J. Therrien, *MIT Lincoln Laboratory*

J.D. Choi, *MIT Lincoln Laboratory*

#### C-2.4 Power Efficient Modulation and FEC for AISR HDR SATCOM Applications

Cho Chau Li, *The MITRE Corporation*

Carl Markey, *The MITRE Corporation*

Jose Torres, *The MITRE Corporation*

Maj. Clint Epperson, *USAF, 653rd Electronic Systems Group*

## C-3

### Components and Subsystems

Monday 9:30 a.m.–noon  
Sun Ballroom D

Advances in the elements of communication systems implementation are discussed in the Components and Subsystems session.

**Session Chair:** Dr. Charles Hicks, *Harris Corporation*

#### C-3.1 Case Study of Low Profile Reflector Antenna Implementations

Peter Bocon, *Raytheon*  
Michael Kemp, *Raytheon*  
Michael Toomey, *Raytheon*  
Jim Renfro, *Raytheon*

#### C-3.2 A Miniature Broadband GaN Power Amplifier for JTRS Handheld SDR Applications

B. Bielick, *General Dynamics*  
H. Patterson, *General Dynamics*  
R. Lucero, *General Dynamics*  
M.S. Hasan, *CECOM*

#### C-3.3 Fabrication and Testing of Laser Communication Terminals for Aircraft

James Cunningham, *ITT Corporation*  
Dean Grinch, *ITT Corporation*  
Dennis Foulke, *ITT Corporation*  
Tim Goode, *ITT Corporation*  
Dan Baber, *ITT Corporation*  
Matt Fletcher, *ITT Corporation*  
Brian Stadler, *AFRL/SNJM*  
Patrick Stallings, *AFRL/SNJM*

#### C-3.4 Overcoming Challenges of Single Omnidirectional Antenna

Kouji Hamanaka, *U.S. ARMY CERDEC*  
Henry Tsai, *U.S. ARMY CERDEC*

#### C-3.5 Implementation of Polyphase Channelizers and MUSIC Direction Finding for Multirate Signal Analysis

Edgar Satorius, *Jet Propulsion Lab*  
Ying-Wah, *USA I2WD*

## C-4

### Network Performance

Monday 2:15–5:00 p.m.  
Sun Ballroom B

The Network Performance session provides an in-depth look at the Soldier-Level Integrated Communications Environment (SLICE).

**Session Chair:** David Vandine, *Harris Corporation*

#### C-4.1 Quantifying the Vulnerability of Tactical Data Networks

Andy Loebel, *Oak Ridge National Laboratory*  
James Nutaro, *Oak Ridge National Laboratory*  
Teja Kuruganti, *Oak Ridge National Laboratory*  
Rajanikanth Jammalamadaka, *University of Arizona*

#### C-4.2 Modeling of the SLICE Dismounted Soldier Radio Network

Chris Li, *ITT Industries*  
Christine Cruz, *ITT Industries*  
C.J. Yoon, *ITT Industries*  
Y.J. Liu, *ITT Industries*  
Carla Grillman, *ITT Industries*

#### C-4.3 Validation of a Soldier-Level Integrated Communications Environment (SLICE Inc. 2.1) Opnet Model

Carla Grillman, *ITT Industries*  
Chris Li, *ITT Industries*  
Christine Cruz, *ITT Industries*  
C.J. Yoon, *ITT Industries*  
Connie Lau, *ITT Industries*  
Mhairi McCune, *ITT Industries*  
Peter Gravelle, *ITT Industries*

#### C-4.4 Investigation of SLICE Multicast Performance

Y.J. Liu, *ITT Industries*  
Carla Grillman, *ITT Industries*  
Chris Li, *ITT Industries*

#### C-4.5 Optimizing the Performance of TDM-CSMA/CA-Based SLICE Sensor Networks

Qun Shi, *ITT Industries*

# CLASSIFIED SESSIONS

## C-5

### SATCOM–Stressed Performance I

Monday 2:15–5:00 p.m.  
Sun Ballroom C

SATCOM–Stressed Performance I, of this two-part session, addresses the performance issues related to satellite communications systems in the presence of noise, jammers, and scintillation.

**Session Chair:** William Struth, *Harris Corporation*

#### C-5.1 Evolution of the Satellite Communications Interference Detection System

D.R. Densiston, Jr., *The MITRE Corporation*

A.S. Parker, *The MITRE Corporation*

C. Scappaticci, *The MITRE Corporation*

T. Van Caster, *The MITRE Corporation*

Maj. Dan Githens, *USAF Space Cmd*

#### C-5.2 High Power Radio Frequency Weapon Threat Analysis for Geosynchronous Satellites

Mark Johnson, *The Aerospace Corporation*

Robert Dybdal, *The Aerospace Corporation*

Saul Sokolsky, *The Aerospace Corporation*

Mark Hopkins, *The Aerospace Corporation*

#### C-5.3 Predicting Radiance Obscuration During a High Altitude Nuclear Event Using the Advanced Systems Survivability Integrated Simulation Toolkit (ASSIST)

Mark Johnson, *The Aerospace Corporation*

Mark Hopkins, *The Aerospace Corporation*

Saul Sokolsky, *The Aerospace Corporation*

Peter Gravelle, *ITT Industries*

#### C-5.4 Mitigating the Effects of Clouds on Free-Space Optical Communications

Billy D. Felton, *Northrop Grumman TASC*

Randall J. Alliss, *Northrop Grumman TASC*

## C-6

### Waveforms and Performance

Monday 2:15–5:00 p.m.  
Sun Ballroom D

The Waveforms and Performance session addresses the challenges and accomplishments in the development of advanced waveforms.

**Session Chair:** William Jones, *Harris Corporation*

#### C-6.1 Feature Analysis and Semi-Blind Channel Recovery Techniques for MIMO-OFDM Waveforms

Edgar Satorius, *Jet Propulsion Lab*

Ying-Wah, *USA I2WD*

#### C-6.2 Tracking Frequency-Hopped Waveforms Embedded in Interference

Edgar Satorius, *Jet Propulsion Lab*

Ying-Wah, *USA I2WD*

#### C-6.3 Robust Communication Waveform for Low Power Transmit Terminals

Richard W. Middlestead, *Vulcan Wireless Inc.*

Kevin J. Lynaugh, *Vulcan Wireless Inc.*

Dennis M. Cottel, *Space and Naval Warfare Systems*

John C. Nugent, *Space and Naval Warfare Systems*

#### C-6.4 Performance Trades for Soldier Radio Waveform Enhancements

Dr. Sungill Kim, *TrellisWare Technologies, Inc.*

Dr. Thomas Carter, *TrellisWare Technologies, Inc.*

#### C-6.5 Commercial 802.11 Wireless Link for Tactical Air-to-Ground Military Communications

1Lt Edward F. Richards, *Air Force Institute of Technology*

Dr. Michael A. Temple, *Air Force Institute of Technology*

LtCol Kerry D. Hicks, *Air Force Institute of Technology*

## TUESDAY, 30 October 2007

### C-7

#### Sensor Networks

Tuesday

9:15 a.m.–noon

Sun Ballroom B

The Sensor Networks session focuses on the unique challenges of handling high-bandwidth, low-latency Intelligence, Surveillance and Reconnaissance (ISR) data in converged network environments.

**Session Chair:** Mark Eichen, *Harris Corporation*

#### C-7.1 Enhanced Collection Methodology for a Distributed Wireless Antenna Sensor Network

Mickey Batson, *Naval Postgraduate School*

John McEachen, *Naval Postgraduate School*

Murali Tummala, *Naval Postgraduate School*

#### C-7.2 Communications Quality of Service Support for Radar Sensor Networking

Eric Farmer, *Johns Hopkins University, Applied Physics Laboratory*

Dan Ockerman, *Johns Hopkins University, Applied Physics Laboratory*

Chris Rogers, *Johns Hopkins University, Applied Physics Laboratory*

Brad Weir, *Johns Hopkins University, Applied Physics Laboratory*

#### C-7.3 Supporting Nontraditional Intelligence, Surveillance and Reconnaissance With Tactical Data Links

Dr. David Bizup, *The MITRE Corporation*

Dr. Gordon Long, *The MITRE Corporation*

Randy Mogor, *The MITRE Corporation*

Andy Walls, *The MITRE Corporation*

David Narkevicius, *OASD (NII)*

#### C-7.4 Signal Classification of Severely Undersampled Signals

Eric D. Lentz, *Syracuse Research Corporation*

Jonathan M. Peck, *Syracuse Research Corporation*

Brian C. Schwerdt, *Syracuse Research Corporation*

### C-8

#### SATCOM–Stressed Performance II

Tuesday

9:15 a.m.–noon

Sun Ballroom C

SATCOM–Stressed Performance II addresses the performance issues related to satellite communications systems in the presence of noise, jammers, and scintillation.

**Session Chair:** James Renfro, *Raytheon*

#### C-8.1 Performance of a Diversity Technique for Communication Over SATCOM Links With Scintillation

M.A. Blanco, *The MITRE Corporation*

V. Kasemsri, *The MITRE Corporation*

#### C-8.2 Use of Reference Symbols for Coherent Demodulation of FH-PM Signals and Performance in Noise

A. Neuburger, *The MITRE Corporation*

M.A. Blanco, *The MITRE Corporation*

#### C-8.3 Designing SATCOM Dynamic Bandwidth Resource Allocation for Operation Under Partial-Time Jamming

Julee Pandya, *MIT Lincoln Laboratory*

Huan Yao, *MIT Lincoln Laboratory*

Aradhana Narula-Tam, *MIT Lincoln Laboratory*

Jeff Wysocarski, *MIT Lincoln Laboratory*

#### C-8.4 Survivable DISN CORE IP Modem System (HIP/OFH/SNAP)

Thaddeus Long, *DISA*

Jarvis Hicks, *Army Defense Communications*

John Williams, *Sandia Labs*

Richard Marella, *L3-Titan*

Jon England, *Harris Corporation*

Joseph Smith, *Femme Comp Inc.*