

Spectrum Management for Defense

**Maximizing and Protecting
Technology's Greatest
Natural Resource**

Spectrum Seminar Day • **May 22, 2006**
Main Conference • **May 23-24, 2006**
Hilton Arlington • **Arlington, VA**



At This Conference You Will Learn and Discuss:

- **Spectrum management** planning and policy
- **International laws** and innovations
- **Case studies** of effective government and military spectrum usage
- **Key insights** from government & industry colleagues and what you need to know about frequency and bandwidth management

**IDGA has assembled an unparalleled
speaker faculty that includes:**

- Lt. General Michael W. Peterson, USAF**
Chief of Warfighting Integration and CIO, Office of the
Secretary of the Air Force
- Dr. Ron Jost** - Director of Wireless, DoD
- John M. R. Kneuer** - Deputy Assistant Secretary for
Communications and Information, NTIA
- Preston Marshall** - Program Manager, Connectionless
Networks, DARPA
- Jean Claude Brien** - Director EMC Analysis and
Consultation, Industry Canada
- Julio "Rick" Murphy** - Chief, Spectrum Management
Division, DHS

Media Partners:



IDGA Alert



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Spectrum Management for Defense

Dear Colleague:

The electromagnetic spectrum is a valuable but limited resource, of which the DoD is the largest consumer. Responding to new global terror threats and inhospitable war fighting terrains requires more robust and encrypted mobile communication. Radios, satellites, sensors and antennas all perform operations on the spectrum that are necessary to intelligence and battlefield communication. We must also learn how to share best practices across industries and agencies without compromising our security.

The radio spectrum is becoming more and more saturated as wireless communication systems proliferate the market, causing a challenge for the government to manage spectrum allocation needs. **IDGA's Spectrum Management for Defense** will help attendees to understand and maximize the future of spectrum management while helping to provide optimal communications in times of increasing security threats.

IDGA's Spectrum Management for Defense offers timely updates on the new spectrum requirements as well as strategies for meeting those requirements.

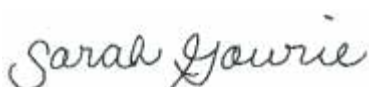
At this conference you will:

- Discuss DoD, FCC, Department of Commerce and Industry perspectives on spectrum management policy, requirements, and research & development
- Learn about international innovations in spectrum engineering
- Benchmark from the spectrum management successes and challenges of other military programs
- Take advantage of the in-depth, interactive conference workshops that offer a hands-on learning experience
- Network with senior executives and colleagues to thoroughly understand your role in the spectrum management process

Do not miss the opportunity to keep updated on the latest spectrum management initiative. Register yourself and a team of key people today by calling **800.882.8684** or online at **www.idga.org**.

I look forward to meeting you in May!

Very Respectfully,



Sarah Gowrie
Program Director
sarah.gowrie@idga.org

*P.S. Sign up now!
This will be a
great networking
opportunity!*

Who You Will Meet

At Spectrum Management for Defense, you will have the unique opportunity to interact and network with representatives from all branches of the military, federal government agencies, manufacturers/contractors, and technology service providers. Attendees will include Directors or Deputy/Vice Directors with the following responsibilities:

- **Program Management**
- **Sensors**
- **ISR Space Systems**
- **Spectrum Policy and Planning**
- **Electronic Communications**
- **Satellite Operations**
- **Antenna Systems**

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The National Spectrum Managers Association is North America's premiere organization for professionals in spectrum management, frequency coordination, and related fields. NSMA offers a unique forum for providing regulatory input and for developing, by industry consensus, operational guidelines that encourage efficient use and management of the radio spectrum.



The Satellite Users Interference Reduction Group is a global industry organization dedicated to combating the costly and increasing problem of satellite radio frequency interference (RFI). Comprised of representatives from both private industry and the public sector, SUIRG shares and disseminates RFI information and remedies, works with industry to define equipment standards and proficiency training, and actively pursues programs to reduce or mitigate satellite interference. SUIRG's extensive and qualified industry experience is put to best advantage influencing suppliers, improving the quality of satellite communications equipment and services, and identifying and providing technical resources to its members. Visit www.suirg.org for more information.

Monday, May 22, 2006

Give more time to the issues.

Sign up for the pre-conference Master-Class Series and dedicate more time for dialogue and networking in a classroom environment. During the Spectrum Seminar Day you can expect:

- **Smaller, classroom-style sessions**
- **Detailed materials/live applications**
- **In-depth discussions with the master-class leaders and fellow attendees**

8.00 - 11.00 Managing the Complexities of Open Spectrum

Cognitive radios can spark a revolution in wireless communications by making all aspects of wireless transmission and reception programmable. These devices can intelligently select the transmission format and media access technology, and modify them dynamically as needed. Specifically, devices equipped with cognitive radios can continually monitor local spectrum, discover its usage, and dynamically reconfigure themselves to transmit in appropriate frequencies.

Existing spectrum licensing policies have resulted in spectrum scarcity, including over-allocation and under-utilization of licensed bands, and an increasingly crowded unlicensed band. By leveraging cognitive radios, open spectrum systems provide opportunistic spectrum access and exploit underutilized allocated spectrum. This addresses spectrum scarcity while creating additional capacity for new wireless devices. After studying open spectrum systems for several years, government, industry and academic groups are now proposing concrete solutions to the complex challenge of spectrum management. Specifically, we are addressing issues such as efficient and fair spectrum allocation, distributed coordination, and power-conservation in spectrum allocation.

This master-class will provide a general overview of open spectrum networks, followed by a comprehensive study of concepts, challenges and techniques for spectrum management, including state of the art in academic and industrial research.

Intended Audience: This tutorial is intended for managers, project

leaders, researchers and engineers in government, industry and academia, as well as for anyone who would like a deeper understanding of cognitive radio and open spectrum systems. Audience is expected to have a basic understanding of wireless systems.

Master-Class Leader:

Haitao (Heather) Zheng received her M.S.EE and Ph.D degree in Electrical and Computer Engineering from University of Maryland, College Park, in May 1998 and July 1999, respectively. She joined wireless research lab, Bell-Labs, Lucent Technologies as a member of technical staff in August 1999, and moved to Microsoft Research Asia as a project lead and researcher, in March 2004. Since Sept. 2005, she has been an **assistant professor** in Computer Science Department, **Univ. of California**, Santa Barbara. Dr. Zheng was recently named as one of the 2005 MIT Technology Review Top 35 Innovators under the age of 35 for her work on cognitive radios. She received 2002 Bell Laboratories President's Gold Award from Lucent Bell-Labs, and 1998-1999 George Harhalakis Outstanding Graduate Student Award from Institute of System Research, University of Maryland, College Park. Dr. Zheng was admitted to the highly gifted class of Xi'an Jiaotong University, P.R. China at age of 15, and graduated with the highest honor. She has served as guest editors of JSAC and EURASIP special issues and TPC members of many conferences. Dr. Zheng's research area includes wireless communications and networking, cognitive radios and open spectrum systems, and multimedia computing.

11.15 - 2.15 Improve the Effectiveness and Availability of the RF Spectrum for a Safer World

- DoD Initiatives - Transformational Spectrum Management (SM)
- Challenges in frequency allocation and Spectrum Utilization
- Improving the Effectiveness and Availability of the RF Spectrum - Industry Initiatives
 - Today And Tomorrow
 - Tools And Technologies

The workshop will cover DoD's directions on Transformational Spectrum Management; the challenges faced by spectrum managers and engineers; enabling technologies on spectrum management/engineering and industry's initiatives on improving effectiveness and availability of the RF spectrum.

The attendees will have a comprehensive understanding of problems at hand concerning spectrum management, DoD and industry's initiatives and the directions we are going.

Master-Class Leader:

Ms. Donya He is **RF Engineering Manager** for the Communications and Information Systems group, **Communications, Navigation, Identification and Reconnaissance (CNIR)** Division at BAE SYSTEMS. In this position, she leads the RF engineering, RF systems analysis effort for CNIR in supporting multiple DoD programs and IRAD programs.

She holds a Master of Science degree in Electrical Engineering (M.S.E.E) from The Johns Hopkins University; a Master of Business Administration (M.B.A) degree in International Business and Engineering Management from The Johns Hopkins University and a Bachelor of Science (B.S.E.E) degree in Electrical Engineering concentrating in Microwave Technology. Ms. Donya He is an active IEEE member in communications society and she has three pending patents.

2.30-5.30 New Tools for ISR Data Link Frequency Management

This master-class will explore software tools for management and planning of spectrum usage by airborne ISR assets and their surface-based terminals that utilize the Common Data Link (CDL) family of equipment.

We will discuss integration of a terrain database with the antenna patterns, platform characteristics, and data link transmit and receive spectral responses, in a time-based analysis of link performance. We will also discuss how software can calculate the link budget at each simulated time step for each (desired) link, as well as calculate the interference received from the other links operating in the vicinity and within line-of-sight.

This workshop will present the use of software tools in an exemplary battlefield deployment of manned and unmanned ISR aircraft, and will illustrate how the tool maximizes usage of the spectrum with minimum "friendly" interference.

Master-class leader:

Bob Wright is a **consulting engineer** with **L-3 Communications**, Communication Systems-West, in Salt Lake City, Utah. Mr. Wright has 30 years engineering experience in development of radar, electronic warfare, and communication systems. Mr. Wright holds BS and MS degrees in Electrical Engineering from Arizona State University.

DAY 1 TUESDAY, MAY 23, 2006

7:15 Continental Breakfast & Registration

7:50 Welcome

8:00 NTIA: Spectrum Policy for the 21st Century

- Role of NTIA in Spectrum Management
- President's Spectrum Policy Initiative
- Institutionalizing the Transformation

Keynote Session

John M. R. Kneuer, Deputy Assistant Secretary for Communications and Information, NTIA, Department of Commerce

8:45 Balancing the Needs for Military Spectrum in Canada

- How Industry Canada manages the Canadian Spectrum
- How the Canadian Military manages Spectrum Requirements
- Cooperative Work Arrangement between Industry Canada and DND
- Balancing the Commercial and Military Requirements
- Current Issues and Challenges

Jean Claude Brien, Director EMC Analysis and Consultation, Industry Canada

9:30 Morning Refreshment Break

10:00 Dynamic Spectrum Technology and its Role in Enabling a New Vision of Wireless Networking

- DARPA XG technology Development
- Opportunistic Spectrum, Media Access and MIMO technology convergence
- Dynamic Spectrum as an Enabler of New Wireless Networking Concepts
- DARPA Wireless Network After Next Program

Preston Marshall, Program Manager, Connectionless Networks, DARPA

10:45 International Spectrum Management Laws and Innovations

- What international laws affect use of spectrum by DoD, either inside or outside the US?
- To what extent may the impact of those laws affect DoD operations abroad?
- What are recent international spectrum management innovations that could ameliorate use of spectrum by DoD?

William Luther, Chief - International Radiocommunication Branch, FCC tentative

11:30 Radio Frequency Weapons 2006 Or The Active Denial System

- The electromagnetic spectrum is the weapons system
- A new, revolutionary and controversial class of non-lethal weapons called "radio frequency weapons" is being deployed and we have to be conversant with them.

Mikel R. Ryan, Head, Mid-Atlantic Area Frequency Coordination Office

12:15 Luncheon for Speakers and Attendees

1:15 Spectrum Management Initiatives from the Office of the Air Force CIO

Lt. General Michael W. Peterson, Chief of Warfighting Integration and Chief Information Officer, Office of the Secretary of the Air Force

Keynote Session

2:30 Afternoon Refreshment & Networking Break

3:00 Increasing Capacity in Tactical Networks Using Spectrum Management

- Managing spectrum during real time emission operation
- Spectrum planning for IED deconfliction
- A Joint force spectrum database

Dr. Mahbub Hoque, Branch Chief, Antennas & Ancillaries Branch Wireless Systems Program Directorate, S&TCD, CERDEC, RDECOM

3:45 Increasing Capacity in Tactical Networks Using Spectrum Management

Dr. John A. Stine, Principal Communications Engineer, The MITRE Corporation, Principal Investigator for the MITRE Sponsored Research Project, "Advanced Tactical Networking"

4:30 NASA discussion on Spectrum Planning and Policy

- What is NASA's current focus
- What are the spectrum activities that NASA is concerned with (National and International)
- Planning domestic and international policy and activities
- Interactions with the Department of Defense

James Madon, National Spectrum Program Executive, NASA

5:15 The Threat of Part 15 Devices

- There is class of wireless, low power, unlicensed (Part 15) do not require documentation, tracking, frequency assignments or Spectrum Certification
- Their use continues to spread rapidly
- They can interfere with us and (worse) we can interfere with them

Mikel Ryan, Head, Mid-Atlantic Area Frequency Coordination Office

6:00 END OF DAY ONE

DAY 2 WEDNESDAY, MAY 24, 2006

7:15 Continental Breakfast & Registration

7:50 Welcome

8:00 Analyzing Spectrum Allocation Requirements for Wireless Communications

Dr. Ronald Jost, DoD Director of Wireless Communications & Policy

Keynote Session

8:45 Spectrum Management Activities in The Department of Homeland Security

- Overview of Spectrum Management within the DHS
- Coordination with other Users (DoD, State/local/Tribal)
- Future Spectrum Requirements to meet DHS mission goals

Julio "Rick" Murphy, Chief, Spectrum Management Division, Wireless Management Office, Office of the Chief Information Officer, Department of Homeland Security

9:30 Morning Refreshment Break

10:00 Positioning, Navigation, and Timing (PNT) Spectrum Issues: A NASA Perspective

James J. Miller, Senior GPS Technologist NASA Headquarters, Space Operations Mission Directorate Space Communications, Spectrum Policy

10:45 Tactical Spectrum Management Operations

Matthew Cullen, Chief, Frequency Spectrum Propensity Office, DCD, Signal Center

11:30 Spectrum Considerations for Coalition Environments

- Demands on hardware performance
- Aspects of waveform design
- International technology proliferation and acceptance

Al Emondi, Chief Scientist, Communications Systems Department, Space and Naval Warfare Systems Center

12:15 Luncheon for Speakers and Attendees

1:15 Spectrum Supportability within the Department of the Navy

Thomas P. Kidd III, Director, Department of the Navy Strategic Spectrum Plans & Policy

2:00 Army All-Digital Land-Mobile Radio Pilot in the National Capital Area

- Pilot Overview
- Benefits
- Challenges
- Recommendations

Dennis S. Joyner, Director, National Capitol Region DOIM (NCR-DOIM)

2:45 Afternoon Refreshment Break

3:15 Inter-theater satellite communications: Issues and Answers

- Open ocean transit vs. commercial satellite footprints
- DoD Teleport training and interaction
- Regulatory issues
- It's hard to find a good DAA these days...

Michael A. Rugar, Satellite and Wireless Networking Section, Naval Research Laboratory

4:00 Spectrum Management for a New Era of Radio Astronomy

- Overview of radio astronomy facilities
- Recent astronomical discoveries driving development of low-noise detectors at 0.1 - 1000 GHz
- Broadband signal detection across the radio spectrum
- Role of spectrum management fostering basic research in contemporary radio astronomy

Harvey S. Liszt, PhD, Scientist and Spectrum Manager, National Radio Astronomy Observatory

4:45 CONCLUSION OF CONFERENCE

SPONSORSHIP and EXHIBITION OPPORTUNITIES

WHY SPONSOR OR EXHIBIT IDGA'S SPECTRUM MANAGEMENT FOR DEFENSE?

IDGA Sponsorships and Exhibits are an excellent opportunity for your company to showcase its products and services to a highly targeted, senior-level military audience. IDGA helps companies achieve sales, marketing and branding objectives by setting aside a limited number of event sponsorships and exhibit places - all of which are custom-tailored to help your company maximize its exposure at the event and reach key decision makers in your field.

WHAT TYPE OF EXPOSURE CAN MY COMPANY HAVE AT IDGA EVENTS?

IDGA prides itself on creating sponsorship and exhibit opportunities that fit your company's specific sales, marketing and branding needs. In order to maximize your organization's exposure at the event an IDGA representative will work with you to create a custom tailored package for your company that will have the greatest impact on your target audience.

Below you'll find just a few of IDGA's most popular sponsorship packages - all of which include a specific number of delegate passes, exhibition booth and a direct marketing campaign specifically targeting your clients and prospects.

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EXHIBITION FLOOR PLAN

Exhibit booth location is based on two factors - the type of sponsorship package your organization chooses and the date of sponsorship/exhibit registration. Reserve your space today to ensure you get the booth location of your choice.

MORE INFORMATION

To learn more about these and other marketing opportunities please call **Dave Kirby** at **212-973-3319** or via email at sponsorship@idga.org.

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Conference Pricing

2-Day Conference	\$999
Spectrum Seminar Day.....	\$500

Only one discount may be applied per registrant - please call 1-800-882-8684 for more details.

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See Page 5 for pricing details.

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