

## Special Session Proposal – EMC 2010

### **Title: Spectrum Management and Engineering, Evolving Trends**

**Abstract:** The Special Session, “Spectrum Management and Engineering, Evolving Trends”, provides a forum to inform the Electromagnetic Compatibility community and others on current research and development efforts to better manage, control and quantify spectrum occupancy.

**Format:** Special Session, Half-day

**Chairpersons:** Larry Cohen and Randy Jost

Email: [Lawrence.cohen@nrl.navy.mil](mailto:Lawrence.cohen@nrl.navy.mil) and Randy.Jost@sdl.usu.edu

**Description:** The Special Session will present methodologies and measurement techniques to better manage, control and quantify the use of spectrum. The objective is twofold. The first goal is to present some of the latest research into the design of components, such as power amplifiers and filters that promote more optimum use and cohabitation of the electromagnetic spectrum by wireless and radar systems. The second goal is to inform on measurement and regulatory compliance strategies and techniques that more accurately and effectively quantify spectrum occupancy by RF systems in a congested electromagnetic spectral environment. The novelty of this special session is that it offers potential solutions to a growing number of spectrum related problems faced by EMC engineers and technologists.

#### **Prospective speakers and proposed topics:**

1) Larry Cohen and Randy Jost, Naval Research Laboratory and Utah State University,

**Introduction, 5 minutes**

2) Robert T. Johnk, NTIA/ITS, Boulder, CO, [bjohnk@its.bldrdoc.gov](mailto:bjohnk@its.bldrdoc.gov), (303) 497-3737

**“High Resolution Propagation Measurements Using Ordinary EMC Antennas”,**

25 minutes

Presentation will focus on the use of standard EMC antennas to assist in providing high resolution propagation measurements in a multi-path environment

3) Charles Baylis Baylor University, Waco, TX, [Charles\\_Baylis@baylor.edu](mailto:Charles_Baylis@baylor.edu),  
(254) 710-4306

**“RF Amplifiers for Spectrum Compatibility”**

25 minutes

Presentation will discuss how to design RF amplifiers for lower spurious emissions

4) Douglas Jachowski, Naval Research Laboratory, Washington, DC,  
[doug.jachowski@nrl.navy.mil](mailto:doug.jachowski@nrl.navy.mil), (202) 404-4623

**“Advances in Reconfigurable RF and Microwave Filters” 25 minutes**

Presentation will concentrate work at NRL involving tunable and switchable filters for interference and spectrum conflict mitigation

5) Lawrence Cohen, Jean de Graaf and Randy Jost, Naval Research Laboratory and Utah State University, [Lawrence.Cohen@nrl.navy.mil](mailto:Lawrence.Cohen@nrl.navy.mil), (202) 404-7726, Jean de Graaf@nrl.navy.mil, and [Randy.Jost@sdl.usu.edu](mailto:Randy.Jost@sdl.usu.edu), (435) 797-4789.

**“Radar Waveforms, Regulatory Compliance and Future Spectrum Requirements”**

25 minutes

Presentation will discuss the US NTIA Radar Spectrum Engineering Criteria (RSEC) and its application in insuring spectrum compliance

**Target Audience:** The target audience is both EMC and non-EMC engineers that currently or will be in the future involved in the design, development, fabrication, installation, testing, and management of wireless devices, systems and networks.

**Sponsoring TC:** The most suitable sponsoring technical committee for this Special Session would be TC-6: Spectrum Management.