

October 2006



EMC FOCUS

Official Newsletter of the Los Angeles Chapter

New Paradigms for Efficient Spectrum Utilization and President's State of the EMC Society

New Paradigms for Efficient Spectrum Utilization

New approaches for enhancing spectrum utilization and frequency management for large, complex systems have recently been investigated. These approaches enable the effective and efficient joint utilization of all orthogonal electromagnetic (EM) transmission resources, including, but not limited to time, frequency, geographic space, modulation/code, and polarization. This multi-dimensional environment is hereafter referred to as the *Transmission Hyperspace (TH)*, a term intended to convey the notion of a multi-dimensional resource space (with n degrees of freedom expressed as an n -tuple) in which each dimension allows orthogonality amongst users. The challenges to the modeling and solution of large-scale *TH*-based problems are presented in the context of assigning the n -tuple dimensions in near real time. Also described are the key aspects of the multi-dimensional *Transmission Hyperspace* and approaches for efficient spectrum management, the results of which are expected to garner several orders of magnitude improvement in RF resource utilization and therefore, aggregate information throughput.



Speaker Biography:

Mr. Andrew "Andy" L. Drozd
EMC Society President
Andro Computational Solutions, LLC

Andrew Drozd is President and Chief Scientist of ANDRO Computational Solutions, LLC, a DoD R&D small business

spectrum management, and automatic target recognition (ATR) problems. Mr. Drozd has authored over 145 technical publications and conference journal papers on topics related to EMC computer modeling and analysis for EMC and frequency allocation.

located in Rome, NY. Mr. Drozd's expertise is in the advancement of computational electromagnetics (CEM) and application of computer modeling and simulation technologies to analyze electromagnetic environmental effects (E^3), including system-level electromagnetic interference/compatibility (EMI/C) and system-wide dynamic spectrum management

Mr. Drozd is a Fellow of the IEEE for the *development of knowledge-based codes for modeling and simulation of complex systems for EMC*. He is the President of the IEEE EMC Society and a member of its Board of Directors, and has been an active EMC Society Member for over 23 years. He is the Chair of the EMC-S Standards Development Committee sponsored P1597 Working Group on the development of standards for the validation of CEM computer modeling codes and a member of the IEEE P1900 series projects which are devoted to developing new policy defined radio standards. He is also a member of the TC-9 Committee on CEM, the Applied Computational Electromagnetics Society (ACES), and the Electromagnetic Code Consortium (EMCC).

Mr. Drozd has over 30 years of technical and program experience, and more recently, has been working on applying expert systems to CEM modeling, E^3 analysis of complex systems, autonomous

President's State of the EMC Society

An overview the current status of the EMC Society: the membership, pursuit of new technical programs and initiatives. Most IEEE societies are experiencing a downturn in membership. As a *median* society, the EMC-S is doing relatively well in the technical, financial, and membership sense, and in terms of strategic plans for continued success. We have also been quite successful in enacting new strategies for increasing the membership growth rate and in new chapter development, and in passing initiatives that will align us with new technology areas and trends in the future. Also to be discussed will be our key strong points as a Society such as providing high-quality technical publications, and the sponsoring of symposia and conferences that facilitate *networking with the experts*. The results of recent surveys on the Society's performance will also be presented.

Meeting Information

(Joint With Orange County EMCS Chapter)



Directions

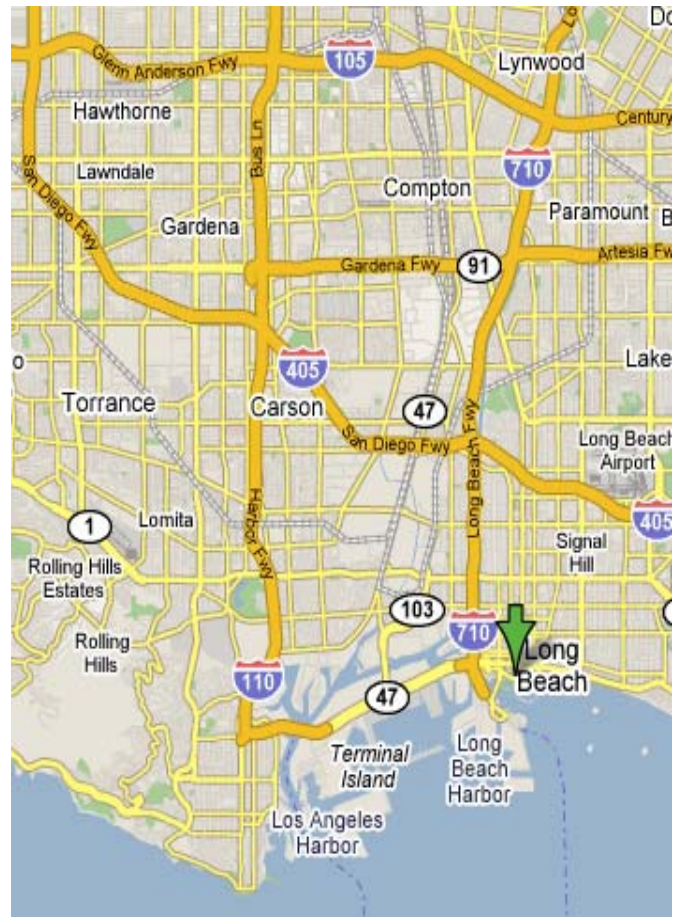
From 405 South and Los Angeles International Airport (approximately 22 miles):

Take the San Diego Freeway (405) South to the Long Beach Freeway (710) South toward Long Beach. At the Freeway split, take the LEFT LANES for Downtown Long Beach/Convention Center. Stay on Shoreline Drive, (DO NOT TAKE Broadway/Civic Center/Pine Avenue exit) follow the signs to: Aquarium/Convention Center/ Pine Avenue. TURN LEFT on Pine Avenue (4th stop light). The hotel is on the corner of Shoreline Drive and Pine Avenue.

From 405 North, John Wayne Airport / Orange County (approximately 24 miles) and Long Beach Airport (approximately 6 miles):

Take the San Diego Freeway (405) NORTH to the Long Beach Freeway (710) South toward Long Beach. At the Freeway split, take the LEFT LANES for Downtown Long Beach/Convention Center. Stay on Shoreline Drive, (DO NOT TAKE Broadway/Civic Center/Pine Avenue exit) follow the signs to: Aquarium/Convention Center/ Pine Avenue. TURN LEFT on Pine Avenue (4th stop light). The hotel is on the corner of Shoreline Drive and Pine Avenue

- When:** October 17th
- Where:** Long Beach Hyatt Regency Hotel
Beacon "A" Ballroom
4th Floor
Take Escalator From Lobby Level
200 S. Pine Avenue
Long Beach, CA 90802
(562) 491-1234
- Dinner (\$25):** 6 PM
Caesar Style Salad
Chicken Picatta
NY Style Cheesecake
Bread, Coffee or Tea
Self Parking Included With Paid Dinner
- Parking:** Self Parking \$6
Valet Parking \$9
- Presentation:** 7 PM
- RSVP:** By Thursday, October 12th
to Ray Adams by e-mail
radams@fishercc.com
or Phone
(310) 303-3300



Southern California IEEE EMC Society Chapters Submit Bid to Host 2011 EMCS Symposium

At the August meeting of the EMC Society Board of Directors the Southern California EMC Society Chapters (Los Angeles, Orange County and San Diego) submitted a proposal to host the 2011 EMCS Symposium at the Long Beach Convention Center. The newly formed EMCS Chapter from Pittsburgh also submitted a bid for 2011.

The last three EMC Symposiums held in Southern California were in Anaheim (1992, 1970) and San Diego (1986) so bringing the Symposium back to Southern California in 2011 is long overdue. The downtown area of Long Beach has undergone a "rebirth" in the past five years. If you haven't been to downtown Long Beach in more than five years you will be pleasantly surprised with the changes. We would not be the first IEEE Society to host

an International Symposium in Long Beach as our sister society MTT did so in 2005. It was successful and as a result other MTT related conferences have been scheduled in the coming years in Long Beach.

The EMCS Board of Directors will vote on the bids at their next meeting in November. The meeting will be held in Houston, Texas. We are hopeful that Long Beach will be selected by the EMCS Board of Directors for 2011. If this happens we will have to get organized and seek help from volunteers of all three Southern California Chapters. We have collaborated on Speakers, Distinguished Lecturers and One-Day Events but this would be an opportunity to show off all that Southern California has to offer! Face it, Southern California is nice place to work and live with all it has to offer.

If you want to hear more about our Proposal please feel free to contact one of the committee members: Mark Frankfurth, Dave Bernardin, Robert Tozier, Randy Flinders, Kanaiya Mahendra or Ray Adams

IEEE EMCS International Symposium 2007 Honolulu, Hawaii July 8 –13th

Information on the 2007 IEEE EMCS International Symposium will be available at this meeting and the web site can be found at <http://www.emc2007.org/>. We will be showing a short video on the 2007 EMCS Symposium and 50 Year Anniversary of the EMC Society! There seems to be a stigma with having a symposium in Hawaii...your managers will think "boondoggle" but rest assured this is not the case! For the first time, the Global EMC University will be offered. The program is geared to EMC Engineers with five years or less of experience. It will be taught by top-notch EMC Educators such as: Clayton Paul, Todd Hubing, Tom Jerse, Flavio Canavero, Mark Steffka, Andy Marvin, Christos Christopoulos and Albert Ruehli. The Global EMC University has limited enrollment, so Register EARLY to guarantee your spot! CEU's will be offered upon successful completion, you MUST attend all lectures to receive credit !

There are ELEVEN other IEEE Societies holding their Symposiums in Hawaii in 2007! Of these ELEVEN, three of them will be there over the June/July 2007 timeframe: MTT-S, AP-S and EMC-S !!!



Proposal to Host
2011 IEEE International Symposium
on Electromagnetic Compatibility
at
Long Beach Convention Center

August 12th - 19th




Submitted By:

Los Angeles, Orange County and San Diego
Chapters of the EMC Society

Submitted: August 13, 2006



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Los Angeles EMC Society Chapter Officers

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