

Date/ Time: Tuesday, May 17th, 2016
6:30 PM Pizza & networking
7:00 PM Presentation

Speaker : Bernard Sklar, PhD

Title : The Things we Ought to Know About Digital Communications : A Primer in Three Parts (1 of 3)

Abstract:

The emergence of digital communications has been a critical part of the information age, and as wireless telecommunications in bandwidth and spectral efficiency, peak throughput and datarates, performance at cell edge and highly mobile environments, and challenges for low latency and overall energy efficiency. In order to understand these seemingly complex interdependent physical limitations of how we communicate, this series of 3 lectures attempts to start from the fundamentals and develop them through the advanced state-of-the-art of digital communications of today, all with an intuitive and clear explanation for the basis of why things work the way they do, and what we are doing to push the envelope in coming generations of digital comm. This first lecture will focus on laying the groundwork of why digital communications is preferred over its analog legacy, key concepts of signal-to-noise, bandwidth and dynamic range, the principles of Nyquist and Shannon that define capability within a given bandwidth, how communications depends on modulation waveshape selection, and the basis for bandwidth efficiency and time-bandwidth product targets.

First in a three-part series of lectures :

Tuesday, May 17 : Part I : Fundamentals of Digital Communications, Modulation, and Capacity and Why Things Are the Way They Are

Tuesday, July 19 : Part II : Modulation, Bandwidth, Power, Spectrum and How Error Tolerance and Coding Schemes Make it All Work

Tuesday, August 30 : Part III : Multipath Limitations, Coherence, Fading and Enabling Techniques for MIMO, Diversity Gain, and Spectral Re-Use in the Future

Bernard Sklar, PhD, President, Communications Engineering Services, Tarzana, California.

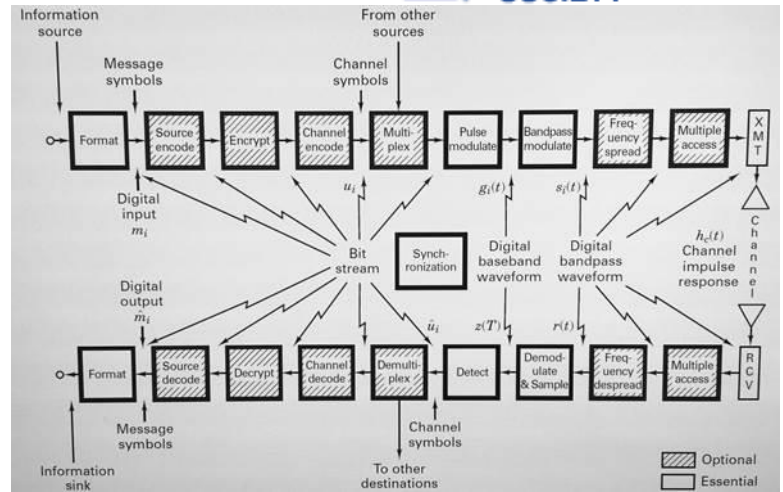
Dr. Sklar was previously at The Aerospace Corporation and has acquired over 50 years of experience in the electronics industry in a wide variety of technical design and management positions. He has worked at Republic Aviation Corporation, Hughes Aircraft Company, and Litton Systems, and has taught communications at both the University of Southern California and UCLA. He is currently associated with the University of Cape Town, South Africa, as an External Examiner. He also has taught at other universities and has presented numerous short courses throughout the United States, Europe, and the Far East. Dr. Sklar has published and presented scores of technical papers, is the recipient of the 1984 Prize Paper Award from the IEEE Communications Society for his tutorial series on digital communications, and is the author of Digital Communications: Fundamentals and Applications, Second Edition (Prentice-Hall, 2001). He is a past chairman of the Los Angeles Council IEEE Education Committee.

Skyworks, Intersection of West Hillcrest Drive and Lawrence Drive, Newbury Park, CA 91320
(not the main building, please use link below to green arrow that pinpoints building)

<http://maps.google.com/maps?q=34.187542,-118.930994&num=1&t=h&vpsrc=0&ie=UTF8&z=18&iwloc=A>

Register : <https://meetings.vtools.ieee.org/m/39640>

Buenaventura ComSoc Chapter



Location: Skyworks Conference Room
Newbury Park, CA 91320
(See RSVP/Directions Below)