



IEEE Systems Council Chapter presents IEEE Distinguished
Lecture Series on

Digital Beam Forming in K-space for Self-Driving Cars

**Speaker: Dr. Donald Chang, CEO of Spatial
Digital Systems**

Date: *February 1, 2019 (Fri)*

Time: *12:30 – 1:30 PM*

Location: *VEC 424, CSULB*

Abstract: Thinned arrays are cost-effective implementations of imaging radars in autonomous-driving cars to achieve good angular/spatial resolutions. They feature reduced power, weights, processing loads, and overall production cost. The presentation relates to architectures and designs of imaging radars with thinned arrays via K-space measurements from radar returns concurrently. The imaging radars feature correlating interferometers made by elements of a thinned array, and digital beam forming (DBF) networks to put the K-space frequency components together properly. These DBF techniques are used in generating shaped beams such as low sidelobe spot beams, shaped area coverage beams, orthogonal beams, multiple hopping beams, and others.

About Speaker:

Dr. Donald Chang is the CEO and the President of Spatial Digital Systems (SDS), formed in 2002 to develop smart antenna technologies for wireless communications. He is an expert on communications satellites, advanced satellite antennas, space based microwave remote sensing instruments, especially in passive synthetic aperture radiometry. He authors > 50 technical papers, holds > 160 U.S. patents on smart antennas, low cost spacecraft design, satellite constellation for multimedia applications, etc. Among the many awards honored from Hughes, the most impressive is the Hyland Award awarded in 2000 for his key contributions in digital beam-forming technology since early 1980s. Dr. Chang earned his Ph.D. & MSEE from Stanford University.

Light refreshment will be served.

For more information, please contact: Dr. Sean Kwon at Sean.Kwon@csulb.edu