

Title: Transmit Adaptivity in Radar

Abstract:

Radar performance is strongly dependent on the transmit waveform and its parameters which must be adapted depending on the surrounding environment, radar mission, goal, and task. Waveform adaptivity is a relatively new paradigm, involving a continuous variation of the transmitted signal, with the main purpose and aim of dynamically optimizing the radar performance to fulfill the more and more stressing radar performance requirements. In this talk some new trends in transmit signal optimization will be introduced and discussed. Specifically, the design of radar waveforms, sharing appealing features and ensuring spectral coexistence with other Radio Frequency (RF) systems, will be pursued according to a rigorous framework based on modern optimization theory.