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**IEEE AESS and SC Distinguished Lecturer
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Advanced Sensor Concepts, Exploitation, Signal Processing and Systems Engineering

HOST:

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TIME, DATE, and LOCATION:

3:30 – 5 PM April 9, 2018

Bruggeman Room Center for Biotechnology and Interdisciplinary Studies

Abstract: In this talk, a number of concepts and technologies forming the foundation for the exploitation of sensors from a Big Data perspective are presented. A signal processing and systems engineering approach is discussed, and heuristic techniques are presented as being critical to leap ahead advances in sensor exploitation. While radar centric in nature, the foundation for a more general sensors approach to Big Data exploitation is discussed. Archival data is considered to be essential to the optimal exploitation of sensor phenomena, as humans are unable to fully observe or even comprehend the volumes of rapidly changing data available today. Topics as diverse as radio frequency tomography for below ground imaging, millimeter wave sensing for exquisite feature extraction, target resonance and dynamic imaging of targets obscured by clutter and cover, as well as space-time adaptive processing are presented. The integrating theme of Big Data exploitation is discussed within the context of these enabling sensor technologies as is the “Velocity of Sensor Data.”