Reconfigurable Antennas for Cognitive Radio and Space Applications

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ABSTRACT  The requirements for increased functionality, such as direction finding, radar, satellite communications, within a confined volume, place a greater burden in today’s transmitting and receiving antennas. The increased demand for better spectrum utilization using dynamic spectrum sharing (DSS) is one more reason for developing new antennas whose functionality can change as the conditions of operation change. A solution to this problem is the re-configurable antenna. Reconfigurable antennas and reconfigurable systems in general show significant promise in addressing complex system-requirements, given their ability to modify their geometry and behavior to adapt to changes in environmental conditions or system requirements (such as enhanced bandwidth, change in operating frequency, polarization, radiation pattern etc.). Reconfigurable antennas can thus provide great versatility in applications such as cognitive radio, MIMO systems, RFIDs, smart antennas, etc.

Speaker Bio Christos G. Christodoulou received his Ph.D. degree in Electrical Engineering from North Carolina State University in 1985. He joined UNM as ECE Chair in 1999 after serving as a faculty in University of Central Florida for 13 years. He is an IEEE Fellow, an URSI Commission B member, a founder of COSMIAC and a Distinguished Professor at UNM. He currently serves as Associate Dean of Research as well as the Interim ECE Chair.

He is the recipient of the 2010 IEEE John Krauss Antenna Award for his work on reconfigurable fractal antennas using MEMS switches, the Lawton-Ellis Award, and the Gardner Zemke Professorship at the University of New Mexico. He has published about 500 papers, 14 book chapters and 6 books. Christos has served as the major advisor for 25 Ph.D and 70 M.S. students.