Friday, September 5
10:00—11:00 am

FIU Engineering Center
EC Room # 1107

www.ece.fiu.edu

"MRI-Fundamentals"

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ABSTRACT

In this talk, the fundamental of Magnetic-Resonance Imaging (MRI) are presented. Technical aspects especially that related to the generation and detection of the RF field are emphasized. One of these aspects is the design of RF coils capable of generating homogeneous magnetic field within the object to be imaged. Utilized a Butler Matrix (which is used in antenna phased arrays and beam forming) for this purpose is investigated.

BIOGRAPHY

"Dr. Omar is a well-established leader in the field of electrical engineering and a world class researcher with expertise in microwave engineering," said George K. Haritos, dean of the College of Engineering. "I am very pleased to welcome Dr. Omar to the College's leadership team."

Omar has been serving as the Chair of Microwave and Communication Engineering and professor of electrical engineering at the University of Magdeburg, Germany for more than 15 years. Most recently, he also served as a visiting Distinguished Professor in 2012 and 2013 at the Petroleum Institute in Abu Dhabi, where he was engaged in research activities for the oil and gas sector in the region.

He is a Fellow of IEEE, and the author/co-author of more than 450 technical papers extending over a wide spectrum of research areas. His current research interests include microwave theory, applications, and measurements, magnetic resonance, acoustic imaging, remote sensing, indoor/outdoor positioning systems, wideband wireless (terrestrial and mobile) communications, subsurface tomography and ground penetrating radar, antennas, and field theoretical modeling of microwave systems and components.

Omar received his bachelor's and master's degrees in electrical engineering from Ain Shams University in Cairo, Egypt, and his Dr.-Ing. degree in microwave engineering from the Technical University of Hamburg-Harburg in Hamburg, Germany.