ELECTRICAL & COMPUTER ENGINEERING **BIO-SEMINAR** **Spring 2020** TEXAS A&M UNIVERSITY Engineering

When: **Friday 12:40 – 13:30, April 17, 2020**

Where: https://tamu.zoom.us/j/514754727

Speaker: **ELSHERIF MAHMOUD**

Master of Science Student
Department of Electrical Engineering
Columbia University

Title: **Accessible Magnetic Resonance Imaging**

Abstract: The COVID-19 global pandemic has been clear evidence of the dire need for real-time transcontinental research effort, and data sharing and accessibility. While this is fortunately somewhat taking place, critical medical imaging data (particularly Magnetic Resonance Imaging) remains far from being fully accessible or real-time sharable. While a sizable portion of the MR instrumentation and sequence design in the past few decades has been geared towards higher-field magnets, the call for a cheaper, more portable, faster ultra-Low-field MR has been in the literature as early as the 1980s. The need for globally-accessible Magnetic Resonance systems has never been more urgent in the light of the numerous health crises and medical challenges that our world is and will be facing this decade. In this talk, I will discuss some of the research efforts that have been done at Columbia MR Research Center toward achieving Accessible MR. I will also briefly go over a particular hardware challenge that is of full-duplex MR or Simultaneous Transmit and Receive (STAR) MR.

Bio: Elsherif Mahmoud is pursuing a Master of Science in Electrical Engineering at Columbia University with a focus in RF and Microwave Circuit Design. He worked as a Research assistant at Columbia MR Research Center where he managed the MR Hardware Lab and worked on RF Safety Experiment and Simultaneous Transmit and Receive (STAR) MRI. He graduated from Texas A&M University at Qatar in 2018 and participated in the REU research program at TAMU College station in 2016 and 2017.