

DISTINGUISHED LECTURE SERIES IEEE ATLANTA AP/MTT

Date & Time: 17th Oct. 2025 @ 11:00 AM

Location: Klaus Advanced Computing Building
Classroom 2456

Address: 266 Ferst Dr NW, Atlanta, GA, 30332

Atlanta's IEEE AP/MTT joint-chapter is hosting an AP-S distinguished lecture and lunch and learn event on October 17th (Fri.) from 11:00AM-12:30PM EST at the Georgia Institute of Technology main campus (Klaus Advanced Computing Building - Classroom 2456). We invited Prof. Ahmad Hoorfar of Villanova University to give a talk titled: "Seeing Through Walls: An Electromagnetic Perspective." Talk abstract and speaker bio can be read below. Anyone interested is welcome to attend! There is a virtual attendance option, but we highly recommend attending in-person since Dr. Hoorfar will be presenting in-person and we want this event to be interactive.

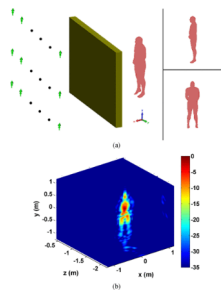


RSVP Here:

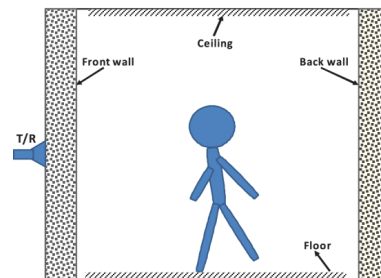
<https://events.vtools.ieee.org/m/498509>

Seeing Through Walls: An Electromagnetic Perspective

The ability of electromagnetic waves to penetrate various building materials, combined with advances in the design of ultra-wideband compact radar modules, has elevated the importance of see-through-wall technology, also known as through-the-wall radar imaging (TWRI), across a wide range of civilian and defense applications. In this lecture, an overview of various TWRI technologies, including the latest research in several areas important in the design of TWRI systems, will be presented. Electromagnetic-based techniques for wall parameter estimation to mitigate the adverse wall effects and enhance the efficient imaging and classification of targets within and/or behind walls will be discussed. For efficient imaging, details of fast polarimetric and tomographic based imaging algorithms for both 2D and 3D scenarios will be given, and imaging results for various realistic scenarios using both numerical simulations and laboratory measurements will be presented. Development of wideband and ultrawideband antenna arrays, which are essential in successful implementation of see-thru-wall technology, together with hardware descriptions of two constructed portable systems will conclude the presentation. Throughout, I will include a personal perspective from my own two-decade journey in this interdisciplinary research area.



IEEE Transactions on Geoscience and Remote Sensing 2013



IEEE Sensors Journal 2021



Ahmad Hoorfar is a professor of electrical and computer engineering, the ECE department's graduate chair, and the founder and director of Antenna Research Laboratory at Villanova University. He received his B.S. in electronics engineering from the University of Tehran and the M.S. and Ph.D. degrees in electrical engineering from the University of Colorado Boulder. His research contributions over the years have covered areas in electromagnetic field theory, numerical electromagnetics, printed and low-profile antennas, metamaterial media and surfaces, inverse scattering, microwave sensing and imaging, and stochastic optimization methods.

Dr. Hoorfar was the recipient of Villanova University's Outstanding Faculty Research Scholar Award in 2007, and the recipient of Philadelphia section's 'IEEE chapter of the year award' for his leadership in chairing the AP/MTT joint chapter in 1995. He has served on the review board of various IEEE and other technical publications and has also been on the technical program committees of numerous international symposia and conferences on antennas, microwaves, radar, and remote sensing in the last thirty years. He spent his sabbatical leaves in 2002 and 2009 at NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California, where he contributed to the design and development of antenna systems for NASA's deep-space communication network.

