

Good morning,
You are invited to attend our weekly ECE Graduate Seminar.

Old Dominion University
College of Engineering and Technology
Department of Electrical and Computer Engineering

All lectures to be held at 3:00pm on Fridays online at
https://vs.prod.odu.edu/kvs/interface_webex/?cid=202010_ECE7831VS_91606

For more information, contact Dr. Chung Hao Chen at (757) 683-3475 or email cxchen@odu.edu.

Friday, September 11th Seminar Topic:

ANTENNA DESIGN AND OPTIMAZATION USING MACHINE LEARNING by Dr. C. J. Reddy, Vice President in Business Development-Electromagnetics for Americas at Altair Engineering, Inc.

Abstract:

Wireless communications have become the ubiquitous wide-ranging applications. Antennas are critical part of any wireless system for maximizing efficiency and data rates. Machine learning is a method of data analysis that automates analytical model building. Antennas are becoming more and more complex each day with increase in demand for their use in variety of devices (smart phones, autonomous driving to mention a couple); antenna designers can take advantage of machine learning to generate trained models for their physical antenna designs and perform fast and intelligent optimization on these trained models. Using the trained models, different optimization algorithms and goals can be run quickly, in seconds, for comparison of different designs. This seminar presents the process of fast and intelligent optimization by Design Exploration and machine learning. Examples to showcase the advantages of using machine learning for antenna design and optimization will be presented.

Bio:

Dr. C.J. Reddy is the Vice President, Business Development-Electromagnetics for Americas at Altair Engineering, Inc. Dr. Reddy was a research fellow at the Natural Sciences and Engineering Research Council (NSERC) of Canada and was awarded the US National Research Council (NRC) Resident Research Associateship at NASA Langley Research Center. While conducting research at NASA Langley, he developed various computational codes for electromagnetics and received a Certificate of Recognition from NASA for development of a hybrid Finite Element Method/Method of Moments/Geometrical Theory of Diffraction code for cavity backed aperture antenna analysis. Dr. Reddy is a Fellow of IEEE, Fellow of Applied Computational Electromagnetics Society (ACES) and a Fellow of Antenna Measurement Techniques Association (AMTA). Dr. Reddy served on ACES Board of Directors from 2006 to 2012 and again from 2015 to 2018. Dr. Reddy is a member of AMTA Board of Directors and is currently serving as the Technical Coordinator for AMTA 2020 conference. Dr. Reddy is a member of Industrial Advisory Board (IAB) of Electrical and Computer Engineering Dept at ODU. Dr. Reddy was awarded Distinguished Alumni Professional Achievement Award by his alma mater, National Institute of Technology (NIT), Warangal, India in 2015. He published 37 journal papers, 77 conference papers and 18 NASA Technical Reports to date. Dr. Reddy is a co-author of the book, "Antenna Analysis and Design Using FEKO Electromagnetic Simulation Software," published in June 2014 by SciTech Publishing (now part of IET).