



IEEE

Cedar Rapids Section

Institute of Electrical and Electronics Engineers

IEEE Microwave Theory and Techniques Chapter Presents

“Radiating Elements in Low Cost Active Electronic Scanned Arrays (AESA)”

Wednesday, October 19, 2016, 5:30 - 7:30 pm

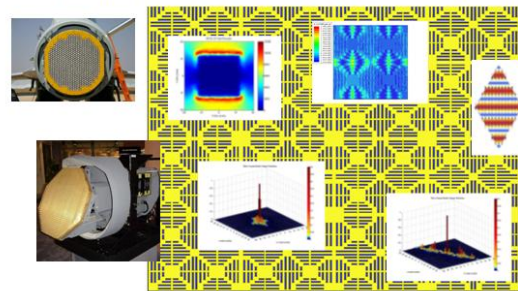
Speaker: Dr. Mike Buckley

The Cedar Rapids Section Microwave Theory and Techniques (MTT) Chapter is delighted to host a presentation by Dr. Mike Buckley of Michael J Buckley, LLC, and formerly of Rockwell Collins and Northrop Grumman.

Low cost AESA (active electronically scanned arrays) are an emerging technology with applications in communication systems, weather radar, and UAV systems. Low cost AESA systems potentially provide volume, weight, and reliability advantages over mechanically steered systems. A critical component of a low cost AESA is the radiating element array which acts as a transducer from free space to the signal processing subsystem. Higher order Floquet mode scattering (HOFS) radiating elements offer significant cost, performance, and packaging advantages over conventional AESA radiating elements. This

presentation will present HOFS radiating elements and explain why they outperform conventional AESA radiating elements. Active research topics in HOFS radiating elements including printed circuit board stack and materials, radome integration, and utilization in small antenna systems will be discussed.

Radiating Elements in Low Cost AESA Systems



Speaker: Michael J Buckley (Member, IEEE) received the B.S. degree in Physics from the College of William and Mary in Virginia, and M.S. and Ph.D. degrees in electrical engineering from the University of Wisconsin in Madison, WI.



In 2014, he started Michael J. Buckley, LLC which focuses on the design and testing of radiating elements, manifolds, and radomes and on planar array synthesis, particularly shaped beam synthesis for non-separable planar arrays. He developed higher order Floquet mode scattering radiating elements to address the packaging, cost, and performance requirements of low cost AESA systems, antenna radome integration, and small array systems. He also developed local search algorithm techniques for large variable non-convex shaped beam synthesis problems. He previously worked at Rockwell Collins,

Northrop-Grumman, Lockheed-Martin, and Texas Instruments. He has numerous patents and publications. He is a member of Phi Beta Kappa.

Where: **Beems Auditorium A, Cedar Rapids Public Library** 450 5th Ave. SE, Cedar Rapids, IA (Free Parking after 6PM)

Reservations: <http://www.ieee-cr-section.org/> Click on meeting link in upper right corner of page.