

IEEE Southern Alberta / TRILabs



Antenna System Design: Multi-scale and Cross-domain Design Challenges

Speaker: Dane Thompson, Ansoft

Date: Tues. Nov. 3 Time: 4-5pm

Location: TRILabs (7777-10 St. NE, Calgary)

Electrically large electromagnetic systems are coupled directly with circuit models to enable impact assessment of the transceiver parasitics or active loading conditions. For example, amplifiers driven into saturation non-uniformly in a phased array are dynamically linked for calculations of far-field patterns. Thus, full systems which include radiating elements, feed networks, RF packaging, and even non-linear active device modeling are included in the same simulation environment.

In addition, multi-domain analysis extends the electromagnetic results into thermal and mechanical worlds which enables cross-functional teams to come together early in the design process. Understanding how design decisions (materials, dimensions) impact performance across these domains is now becoming possible in the same simulation environment. This has implications in the type of analyses that are possible at a product level, not just at the subsystem.

Dane Thompson is a Senior Application Engineer at Ansoft. He received his PhD in electromagnetics from the Georgia Institute of Technology in 2006. Dane has published 18 IEEE journal and conference papers on antennas, array structures, metamaterials, mm-wave dielectric material characterization, and RF packaging. He has supported high frequency electromagnetic customers south and eastern U.S. for 4 years.

Refreshments will be provided.

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