

IEEE Miami Section Invited Seminar Announcement

“POWER AND MMWAVE PACKAGING IN ELECTRIC VEHICLES: MULTIPHYSICS TO THE RESCUE”

Speaker: DR. RAJEN MURUGAN

Date: Tuesday, November 23, 2021

Lecture: 12:00 PM ET / Via Zoom

Zoom Link: <https://bit.ly/bmeindustry>



Abstract:

This presentation provides a broad review of complex IC package/system co-design modeling challenges and opportunities. First, a study of the fundamental governing equations that capture the multi-physical interactions is presented. Next, the discussion focuses on modeling challenges to achieve desired performance while keeping costs down. Finally, IC package design examples ranging from high-performance mmWave AoP (antenna-on-package), high-power GaN power modules, to high-current automotive/industrial sensors are provided to demonstrate how modeling is employed to achieve a compromise between performance and cost.

Speaker's Bio

DR. RAJEN MURUGAN specializes in Multiphysics Modeling for analog and mixed-signal semiconductor packaging. He applies this modeling and analysis methodologies for mmWave sensor and power modules in electric vehicles. He is a Distinguished Member of Technical Staff (DMTS) with Texas Instruments, Inc. He currently has 20 patents (24 pending) and has published over 50 papers in IEEE peer-reviewed journals and conferences. Dr. Murugan holds a Ph.D. in Applied Electromagnetics. He is currently an Affiliate Assistant Professor with the University of Washington, a Senior Member of IEEE, Chair of the IEEE EPS Dallas Chapter, and Co-Chair of the IEEE Dallas Section (R5)

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