

## *Computational Electromagnetics in Designing Today's Digital Systems*

*Swagato Chakraborty*  
*Mentor Graphics*

Electromagnetic analysis has been traditionally used in the context of circuit design for designing antennas and other RF and microwave components. But today, it has become an integral part of designing digital systems. This demand is primarily driven by the need for higher operating speed, low power budget, compact size, and reduced time to market. The following talk focuses on different scenarios and purposes of creating high speed digital packages and printed circuit boards where some form of electromagnetic analysis is used. The discussion will specifically focus on the roles of the aforementioned driving factors in pushing new requirements of electromagnetic analysis. Also, it will touch upon various methods of such analysis, discuss when and how to use them, and evaluate each based on their pros and cons.