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# Signal Integrity

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## Journal™

### SIJ-Provided Content Webinar 2020

**Title:** PCB Interconnect Modeling Demystified

**Presenter:** Bert Simonovich, Founder of Lamsim Enterprises Inc.

**Overview:**

When trying to meet insertion loss budgets for the latest serial link standards, board designers are often overwhelmed when trying to choose appropriate differential pair geometries, board material and stackup. Part of the challenge is modeling transmission lines accurately. Many electronic design automation (EDA) tools include the latest and greatest models for conductor surface roughness and wide-band dielectric properties. But obtaining the right parameters to feed the models is always a challenge.

So how do we get these parameters? One way is to use the design feedback method which involves designing, building and measuring a test coupon with the proposed geometry. After modeling and tuning various parameters to best fit measured data, material parameters are extracted then used in channel modeling software to design the final product.

But for many small companies and signal integrity engineers, they have to come up with an answer sooner, rather than later. By using dielectric material properties, and copper foil roughness parameters from data sheets alone, a practical method of modeling high-speed PCB interconnect is presented and correlated to measured results.

**Presenter Bio:**



**Lambert (Bert) Simonovich** Born in Hamilton, Ontario, Canada, graduated from Mohawk College of Applied Arts and Technology in Hamilton, Ontario, Canada as an Electronic Engineering Technologist. Over a 32 year career at Bell Northern Research and later Nortel, he helped pioneer several advanced technology solutions into products and has held a variety of R&D positions, eventually specializing in backplane design. He is the founder of Lamsim Enterprises Inc. providing innovative signal integrity and backplane solutions. He is currently engaged in signal integrity, characterization and modeling of high speed serial links associated with backplane interconnects. He holds two patents and author of several publications.



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