

Invited Speech: **A Pattern-Based Design Platform for High Manufacturability**

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## About the Speaker



One of PDF's founders, Dr. Michaels has served in Vice Presidential capacities since March 1993 including currently as Vice President, Integration Practice, and as a director since November 1995. He also served as Chief Financial Officer from November 1995 to July 1998. Dr. Michaels received a BS in Electrical Engineering, a MS ECE and a PhD ECE from Carnegie Mellon University.

## Abstract

Traditional design for manufacturability (DFM) is a band-aid that is losing its ability to cover the growing gap between design and manufacturing. Layout and neighborhood dependent device characteristics, silicon variability, and process complexity have pushed the traditional interface based on design rules and SPICE models beyond its limits.

To successfully and profitably overcome the challenges of advanced nodes, our industry needs to explore redefining the interface between design and manufacturing based on a set of manufacturable patterns. By shifting to a pattern paradigm, DFM considerations are built into the layout constructs. Logic building blocks are built by restricting layouts to manufacturable patterns and implemented in standard cell design flows. The result is a predictable and profitable path for designers to migrate to leading edge nodes.