

Tutorial 1: Innovative Technology for Beyond 2 nm

Matthew Metz, Intel



Abstract:

Intel is working at the forefront of revolutionary material and device improvements that the semiconductor industry needs to support continued performance improvements. This tutorial will focus on two of these research topics, Transition Metal Dichalcogenides for continued CMOS scaling and new materials and devices for ultra-low power computation.

Bio:

Dr. Matthew Metz earned a Ph.D. in Inorganic Chemistry from Northwestern University and joined Intel in 2002 and has since acquired over 300 patents supporting improvements in semiconductor devices. His focus at Intel has been on developing new materials to enable improved semiconductor device performance, with his first impacts being in the high-k and metal gate arenas. Recently, as Director of the Device Materials team in Intel's Components Research organization, Matthew has grown a team of materials and process experts to develop new materials and deposition techniques to drive the performance of Intel's device, interconnect and packaging programs.