## Thomas Koch, University of Arizona

## Title: Silicon Photonics: The Opportunity of a Lifetime... But We're Only Halfway There

**Abstract:** Photonic integration has already proven its value in providing compact, reliable, highperformance, and low power solutions for telecommunications. The introduction of silicon photonics increases the prospect for stronger intimacy between electronics and photonics, and the application of photonics solutions into very short reach board level or chip-to-chip interconnects. This talk will discuss the likely evolution of market drivers and performance metrics for photonic integrated circuits, and also point out the tremendous work and rewards that lay ahead in developing fully compatible manufacturing technologies for electronic and photonic functionality.

**Biography:** Thomas L. Koch is the Dean of the College of Optical Sciences at the University of Arizona. He received an A.B. in physics from Princeton (1977) and a Ph.D. from Cal Tech (1982). He then joined Bell Labs, where he led research and prototyping of semiconductor lasers and advanced photonic devices. From 1995 to 1996, Dr. Koch was VP of R&D at SDL; he then returned to Bell Labs/Lucent to become CTO of optoelectronic products and director of photonics research. In 2000, he became VP of technology platforms at Lucent and then Agere, where he managed the R&D of optoelectronics and integrated circuit devices during the telecommunications boom. Dr. Koch joined Lehigh in 2003 where he was the Daniel E. '39 and Patricia M. Smith Chair and professor of ECE and of physics, as well as the Director of the Center for Optical Technologies. He is a member of the National Academy of Engineering and a Fellow of IEEE, the Optical Society, and Bell Labs. In 1991, he won the IEEE Photonics Society's William Streifer Award for Scientific Achievement. He was awarded IEEE's Eric E. Sumner Award in 2008, for pioneering contributions to optoelectronics and optical communications.