The Evolving Face of Integrated Photonics: New Packaging Strategies

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Abstract

Often hailed as the counterpart of electronic integrated circuits in the optics domain, integrated photonics have emerged as a mainstream technology for applications covering communications, computing, sensing, and quantum information. Nevertheless, the demand for precise alignment, sensitivity to optical losses, and strong wavelength dependence pose significant challenges to packaging of integrated photonic circuits. In this talk, we will discuss several examples of photonic packaging technologies and their applications. In addition, we will also introduce a new ultra-broadband, low-loss, and misalignment-tolerant optical packaging design based on 3-D free-form micro-optics.

Speaker's short bio:
Juejun (JJ) Hu received his B.S. from Tsinghua University, China, in 2004, and his Ph.D. from Massachusetts Institute of Technology (MIT), USA, in 2009, both in materials science and engineering. He is currently an associate professor at MIT's Department of Materials Science and Engineering. Prior to joining MIT, he was an Assistant Professor at the University of Delaware, USA from 2010 to 2014. Dr. Hu has authored and coauthored more than 90 refereed journal publications since 2006. His research primarily focuses on integrated optics and photonics. He has been recognized with the Robert L. Coble Award from the American Ceramic Society, the SPIE Early Career Achievement Award, the NSF CAREER Award, the DARPA Young Faculty Award, among others.