

Symposium speaker

Full Name	Paul Fortier
Affiliation	IBM
Presentation Title	Automated High-Throughput Assembly Processes for Photonic Packaging

Biography

Paul Fortier is an Advisory Engineer in the advanced packaging development organization at IBM Bromont in Canada. He has worked in the packaging field for 25 years and holds 43 patents and patents pending in both microelectronic and photonic packaging. He currently coordinates the packaging assembly process development activities for silicon photonics and optoelectronics at IBM Bromont. Paul obtained his B. Eng in mechanical engineering from McGill University, Montréal, QC, Canada in 1988.

200 words abstract

Large scale deployment of integrated photonics modules is currently hindered by the challenges in packaging assembly. Packaging is considered one of the key development focus areas needed to meet the cost, performance, reliability and volumes requirements of these modules. Disruptive advances are needed as relying solely on incremental improvements to existing packaging approaches may not allow us to reach the above goals.

IBM has developed new innovative package building blocks to assemble photonic integrated modules. Leveraging the microelectronic industry, IBM has developed automated, low-cost and scalable packaging approaches for optical fiber interfacing to the photonics die, using both a compliant polymer interface and a parallelized fiber array, as well as a photonic flip-chip approach for the integration of secondary photonic chips, such as lasers or SOAs. These packaging innovations are easily transported into a standard microelectronic assembly infrastructure, thus achieving the goal for cost efficient and scalable packaging and allowing both photonics and microelectronics to be seamlessly co-packaged at the same assembly site.

This technology has reached the yield and reliability testing stage and is to be offered as a service at the IBM assembly and test manufacturing center in Bromont, Canada.