



David K. Lam to Unveil "Security Lithography" Advances to Thwart IC Counterfeiting at SPIE Lithography Conference

Silicon Valley Hall of Famer and Founder of Lam Research to present unsurpassed levels of on-chip security enabled by Multicolumn E-beam Lithography (MEBL)

SANTA CLARA, CA - February 11, 2020 - Multibeam Corporation [today](#) confirmed Dr. David K. Lam will disclose "Security Lithography" advances at the upcoming February 23-27 SPIE Advanced Lithography conference at the San Jose Convention Center. The Multibeam Chairman and CEO will take center stage on February 26, Wednesday, at 10:30 AM (Session 7: Multi-Beam Direct Write Lithography) within the broader conference program titled, ["Novel Patterning Technologies for Semiconductors."](#)

In his presentation, "Multicolumn E-Beam Lithography for IC Traceability," Dr. Lam will discuss how Security Lithography, made possible by Multibeam's MEBL, can thwart IC counterfeiting by embedding a unique ID into each IC during routine wafer fabrication.

"Counterfeit ICs remain a major problem throughout the semiconductor supply chain," asserted Dr. Lam. "Each critical IC should have a unique tamper-proof identifier to enable verification of authenticity throughout its life cycle, but current anti-counterfeit solutions are costly and fall far short of expectations." In his presentation, Dr. Lam will contrast current approaches with the use of MEBL, which can embed a unique ID deep inside each IC during normal fabrication; hard-code the ID at the 'silicon level' making it virtually tamper-proof; eliminate the need for costly drive circuits, extra mask steps, and/or special packaging; and can link to a secure database to store individual chip data including chain-of-custody records, which is crucial for verifying provenance of the chip.

"Faster, Better, Cheaper" Still Essential but Insufficient

"Winners in [today's](#) IC market need to go beyond making chips faster, better and cheaper," affirmed Dr. Lam. "Winning must now include 'more secure' as counterfeit ICs proliferate and negatively impact IC makers as well as commercial and government users." He stressed the need to embed each chip with a unique ID during wafer fab, a task just not possible with cookie-cutter mask-based lithography such as DUV and EUV. He reported that his firm's multi-module MEBL system (with each module about the size of a plasma-etch module) has advanced to writing on-chip security at a throughput of 60 wafers/hour. "Such a high rate is compatible with most wafer fab flows and affordable for commercial chipmakers," he added. "Expect Security Lithography to address huge markets as the need for on-chip security cuts across most applications."

About Multibeam Corporation

[Multibeam Corporation](#) is a leader in multicolumn electron-beam lithography (MEBL) technology. Based in Santa Clara, California, the innovative wafer fab equipment maker is working on two "Security Lithography" projects under separate U.S. Government contracts that will build MEBL production systems initially targeting 45nm-node devices and develop Secure Chip ID technology to thwart IC counterfeiting. With a robust and expanding IP portfolio including 39 patents awarded by the USPTO, Multibeam is also pursuing commercial growth markets enabled by its MEBL Security Lithography platform. The company is led by Dr. David K. Lam, the founder and first CEO of Lam Research. Widely recognized as a key contributor to the growth of the semiconductor industry, Dr. Lam was inducted into the Silicon Valley Engineering Hall of Fame in 2013.

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