

Equipment Intelligence™: Plasma Science Driven by Semiconductor Data

Andrew Bailey

The expanding world of functional artificial intelligence and machine learning is fundamentally underpinned by plasma science. Plasma chemistries create the cost effective semiconductors the algorithms depend on for data storage and compute capabilities. The semiconductor industry is an amazing infrastructure of interacting engineers, equipment and processes that continues to deliver ever improving sub-nanometer precision devices on a massive scale. Data driven plasma scientists still have great opportunities to continue improving this world by building better AI/ML strategies that bring physics to bear while leveraging the huge quantities of data currently produced in semiconductor fabs. Typical plasma equipment can produce many gigabytes of data every processing step on thousands of wafers. Lam Research's pioneering Equipment Intelligence™ is tackling these opportunities by leveraging AI/ML coupled with innovative engineering to deliver maximum productivity with minimum variability.