

# Tuesday Morning, May 21, 2024

## Exhibitors Keynote Lecture

### Room Town & Country A - Session EX-TuM

## Exhibition Keynote Lecture

**Moderator:** Jyh-Wei Lee, Ming Chi University of Technology, Taiwan

11:00am EX-TuM-1 **Material Innovations and Challenges of Thin Films and Plasma Applications for 3 nm Node and Beyond**, **Samuel Chiu** ([Samuel\\_Chiu@amat.com](mailto:Samuel_Chiu@amat.com)), Applied Materials, Taiwan **INVITED**

The inventions of integrated circuits (1958) and the prediction of Moore's Law (1965) will celebrate its 66<sup>th</sup> and 59<sup>th</sup> anniversary in 2024, respectively. The foundation of semiconductor industry and its amazing achievement has dramatically changed the way we lived.

With the advents of Artificial Intelligence (AI), Machine Learning and AR/VR (Artificial Reality, Virtual Reality) applications enabled by advanced semiconductor technology, there are high hopes we will see significant breakthrough in many areas such as vaccine research, auto-pilot, astrophysics and super computing, etc.

Taiwan plays a critical role as a hub of semiconductor R&D and manufacturing for the past several decades. In this presentation, the latest innovation of thin film materials and plasma-related process to drive the success of advanced technology nodes will be described. Furthermore, the future challenges and opportunities beyond 3nm nodes in order to keep Moore's Law alive will also be presented.

**Bold page numbers indicate presenter**

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