# Wednesday Afternoon, May 24, 2023

## Special Interest Talks

## Room Town & Country A - Session SIT3-WeSIT

### Special Interest Session III

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

1:00pm **SIT3-WeSIT-1 Thin Film Sputtering Technologies Enabling Manufacturing of Functional Devices for Smart Society**, ***Koukou Suu***, ULVAC, Inc., USA **INVITED**

Functional materials from thin film technology are finding new applications. Sputtering is one of the critical processes to deposit thin films. Industry needs reliable and reproducible sputtering solutions. ULVAC has been developing sputtering equipment and technology using Radiofrequency (RF) for functional materials deposition. Sputtering has a wide range of applications in BST, STO, PCM Memory, Electrolyte Materials of Lithium Ion Battery and PZT. Piezoelectric PZT thin films, one of ULVAC's leading technologies, have been used to fabricate advanced piezoelectric MEMS (Piezo-MEMS) devices, such as gyro/acceleration sensor, microphone, piezoelectric micro-machined ultrasonic transducer (pMUT), μ-mirror and pyroelectric sensor. These devices have been identified as key enabling technologies for "Smartphones," "Wearable devices," and "Autonomous cars," which are rapidly becoming one of the most important components of a modern "Smart Society's" "Smart infrastructure." ULVAC provides CMOS-compatible solutions for Piezo-MEMS device integration in order to realize next-generation IoT applications for smart societies. A brief overview of how we developed an original sputtering module and stable advanced process technologies, including the low temperature crystallization technique of PZT, will be presented in this talk.

# Author Index

## Bold page numbers indicate presenter