Joint Workshop 12: Microelectronics: Materials, Design, Devices, and Characterizations

Thursday, May 4, Afternoon

1:30 – 1:45 Supratik Guha (University of Chicago)
Opening Remarks

1:45 – 2:15 Joshua Yang (University of South California)
Memristors with Thousands of Conductance Levels for Analog Computing

2:15 – 2:45 Shriram Ramanathan (Rutgers University)
Complex Oxides for Brain-inspired Computing

2:45 – 3:00 Break

3:15 – 3:45 Joseph Kline (National Institute of Standards and Technology)
X-ray Metrology for the Semiconductor Industry

3:45 – 4:15 Dillon Fong (Argonne National Laboratory)
Dynamic Processes in Strontium Cobaltite Heterostructures

4:15 – 4:45 Martin Holt (Argonne National Laboratory)
Nanoscale Imaging of Operando *Semiconductor Systems through Time-resolved Hard X-ray Diffraction Microscopy*

4:45 – 5:00 Q&A and Discussion

Friday, May 5, Morning

9:00 – 9:30 Sarbajit Banerjee (Texas A&M University)
Towards an Expanded Palette of Materials and Mechanisms for Neuromorphic Computing

9:30 – 10:00 Huajun Liu (A*Star)
Developing High Performance Piezoelectric Oxide Thin Films for Acoustic Filters in 5G Wireless Communications

10:00 – 10:30 Anirudha Sumant (Argonne National Laboratory)
Towards Developing Energy-efficient Electronics Based on Diamond Heterointegration with Semiconductor Materials

10:30 – 10:45 Break

10:45 – 11:15 Jiaqi Cai (University of Washington)
Unveiling Fractional Quantum Anomalous Hall States in R-stacked Twisted MoTe2

11:15 – 11:45 Yuxuan Cosmi Lin (Texas A&M University)
Semimetal Technology for 2D Semiconductor Electronics

11:45 – 12:00 Discussion and Closing Remarks