Scientific Program for the 2019 Lawrence Workshop on Solid-State Technology
ASU University Club

Thursday February14th

7:30 – 8:30 AM ***Breakfast***

8:30 - 8:35 AM **Welcoming remarks, Nate Newman**

AM Session chair: ***Nate Newman (ASU)***

8:35 - 9:15 AM ***Richard Fu, Northumbria University, Newcastle,UK***
A sound idea: Thin film piezoelectrics to realize medical lab-on-a-chip

9:15 – 9:55 AM ***Frank Libsch, IBM***
Ubiquitous computing with small computers

9:55-10:35 AM ***Michael Lanagan, Penn State***
Microwave Dielectric Response of Insulators & Interfaces

10:35-10:50 AM ***Coffee break***

10:50– 11:30 AM ***Justin Gonzales, Arizona State University***
A new development: "Smart" dielectric materials for advanced microwave systems

11:30 –12:10 PM ***Tengming Shen, Lawrence Berkeley Labs***
Advances in high-field superconducting magnets for frontiers in physics, energy, and medical applications

12:10 PM –1:20 PM ***Lunch***

PM Session chair: ***Jim Huffman (Lawrence Semiconductor Research Lab*)**

1:20 – 1:35 PM **Brief introduction and 3 minute presentation from our sponsors**

1:35 – 2:15 PM ***Vivuds Ozolins, Yale University***
Mathematically rigorous density-functional theory methods for computational design & discovery of new materials

2:15 - 2:55 PM ***Lucian Shifren, ARM***
The end of Moore's Law, a chance for innovation everywhere

2:55 – 3:10 PM ***Coffee break***

3:10 - 3:50 PM ***Brent Young, AOSense, Inc.***
Quantum sensors and atomic clocks – Successes, capabilities, and challenges

3:50 – 4:30 PM ***Nasser Peyghambarian, University of Arizona***
Role of optics and photonics in computing

Plenary speaker
4:30 -5:30 PM ***Frank Wilczek,*** **MIT, ASU, JiaoTong Univ., Stockholm Univ.**
Quantum Computing and Anyons

6:00 –7:45 PM ***Evening dinner banquet,***

Friday February 15th

7:30 – 8:30 AM ***Breakfast***

AM Session chair: ***Cameron Kopas (ASU)/Mac Robinson (Lawrence Semiconductor Research Labs)***

8:30 - 9:10 AM ***Jungsang Kim, Duke University & Ion Q***
Quantum computing based on trapped ion technology

9:10 – 9:50 AM ***Robert Wisnieff, IBM***
Progress toward useful Quantum Computers

9:50 - 10:30 AM ***Trevor Lanting, D-wave Systems***
Development of Quantum Annealing Technology at D-Wave Systems

10:30-11:05 AM ***Coffee break***

11:05-11:45 AM ***Will Oliver, MIT & MIT Lincoln Labs***
Superconducting Qubits for Quantum Information

11:45–12:25 PM ***Daniel Queen, Northrop Grumman Corporation***
Materials Origin of Loss in Superconducting Circuits

12:25–12:30 PM **Closing remarks, Nate Newman**

12:30 PM ***Box Lunch***