

## **Atomic-scale engineering of new quantum materials**

Julia Mundy

Quantum systems have tremendous prospects for advances in sensing, communication and computation. In many cases, integrating these phenomena into functional devices mandates new materials which host additional collective ground states or emergent properties at higher temperatures. I will discuss advances in designing and synthesizing new quantum materials at the atomic-scale and will in particular highlight a tight experimental feedback loop which could accelerate the discovery of new quantum materials.

### **Bio:**

Julia A. Mundy joined Harvard University as an Assistant Professor of Physics in 2018. Her group's research uses a combination of atomically-precise oxide molecular-beam epitaxy and picoscale electron microscopy imaging to design, construct and probe novel quantum materials. She earned her PhD in Applied Physics from Cornell University in 2014 and was the UC President's Postdoctoral Fellow at UC Berkeley from 2015-2017. She has been recognized by the AIP/APS, MRS and Microbeam Society. Professor Mundy was recently named a Moore Fellow in Materials Synthesis and awarded the 2018 George E. Valley Award from the APS, given biennially to an early career physicist.