This Track 1 Major Research Instrumentation award will be used for the acquisition of a Nitrogen-Vacancy (NV)-Attocube (Atto) atomic force microscope (AFM) integrated with a confocal microscope (CFM). This acquisition will transform our existing scanning probe microscope into a versatile platform for NV quantum sensing and fundamental research on quantum entanglement. The point defect atomic nature of the NV center and its spin millisecond quantum coherence lifetime allow measurements of a wide range of quantum materials with high sensitivity and spatial resolution (< 40 nm). It operates at high magnetic fields and across a wide range of temperatures. The new equipment will be located in NCMN’s Surface and Materials Characterization facility, allowing access for internal & external users, and training for students and quantum engineers.