Stanford

Paul B. Welander

Lead Scientist, SLAC National Accelerator Laboratory

Bio

BIO

Paul Welander is a Lead Scientist and Head of the Quantum Devices Department in the Technology Innovation Directorate at SLAC National Accelerator Laboratory. Paul's research interests concern materials for quantum devices, from the study of materials-induced decoherence mechanisms in superconducting quantum bits, to the development of materials platforms that enable novel quantum technologies. He's a researcher in both the Detector Microfabrication Facility and Nano-X, two new state-of-the-art cleanrooms at SLAC geared toward superconductor quantum device fabrication and rapid nano-prototyping, respectively. Paul also leads experiments at the Stanford Synchrotron Radiation Lightsource (SSRL) to characterize materials used in superconducting quantum devices and correlate those measurements with device performance and quantum decoherence rates. His expertise includes molecular beam epitaxy of metal-oxide heterostructures, superconducting device fabrication, and an array of materials characterization techniques including electron and x-ray diffraction, photoelectron spectroscopy, and scanning probe microscopy. Paul received his Ph.D. in physics from the University of Illinois at Urbana-Champaign, and holds Bachelors degrees from both Caltech and Occidental College. Prior to joining SLAC in 2012, he spent five years as a member of the technical staff at MIT Lincoln Laboratory.