



Desktop



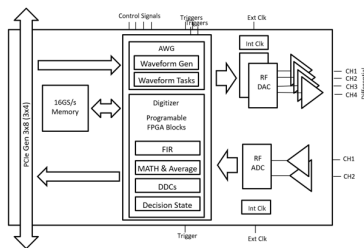
Benchtop



PXI Module

Nikhil Mitaliya

TABOR ELECTRONICS AND S-QUBE SYSTEMS AHMEDABAD



CONTROL ELECTRONICS FOR QUANTUM TECHNOLOGIES

Quantum computing, set to tackle complex problems beyond classical computers, hinges on precise qubit control. This talk describes a project to develop a practically scalable multiplexed readout based on unified Quantum Control Electronics for Quantum Technologies covering Superconducting Qubits, NV Centre Diamond, Ion trap, and NMR-based Spectrometer with a stable phase coherence clock source. The platform will integrate advanced electronic design, including high-speed DACs, low-noise analog electronics, and FPGA-based real-time signal processing for accurate qubit manipulation. It will also feature a high-speed clock source and a multi-channel phase-coherent clock source, employing advanced frequency synthesis to ensure stable, low-jitter, and phase-coherent signals critical for reliable quantum operations.

MAR

20th

2025

TIFRH Auditorium 16:00 Hrs

Tea/Coffee 15:45 Hrs