

**Special Colloquium**

**System Design Considerations for Noisy Intermediate-Scale Quantum Machines**

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Rigetti Computing

**September 16, 2019**  
3:30 p.m.

Quantum computers powered by hundreds of gate based, superconducting qubits are just over the horizon. Several groups have already announced activities on quantum processors of 50 qubits or more. The systems containing these processors will be of fundamental importance in quantum algorithm development, on our path toward quantum advantage in the Noisy Intermediate Scale Quantum (NISQ) era. This talk will address the trade-offs in the design of hybrid quantum-classical computing systems based on gate based superconducting processors approaching 100 qubits that enable applications development today on Rigetti's Quantum Cloud Services.

**Wilson Hall, One West**