

# Materials and Interfaces for spin qubits : On and Off the Beaten Path

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The semiconductor industry knows how to make and integrate billions of excellent transistors. What materials and interfaces do we need to integrate excellent qubits at large scale for the quantum information age of tomorrow? I will examine the materials science progress underpinning silicon and germanium-based planar heterostructures, review our most significant experimental results demonstrating key building blocks for quantum technology, and identify the most promising avenues toward scalable quantum information processing.