

# Materials for quantum computing: On and off the beaten path

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## Abstract

The semiconductor industry knows how to make and integrate billions of excellent transistors. These transistors define the current information age. What materials do we need to integrate excellent qubits at large scale for the quantum information age of tomorrow? How will we measure at scale the quantum properties of these materials to accelerate progress in the field? I will examine the materials science progress underpinning silicon and germanium-based planar heterostructures [1], review our most significant experimental results demonstrating key building blocks for quantum technology, and identify the most promising avenues toward scalable quantum information processing.

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## References

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- [1] G. Scappucci, et. al., Nature Review Materials, 6 (2021) 926