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### **Oxide-Semiconductor Materials for Quantum Computation**

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In this talk I will describe efforts to create a quantum information processor using ferroelectrically coupled electron spins in silicon. The constituent material systems are Ge quantum dots, whose size must be compatible with storage of single electrons, and whose spacing must allow for significant spin exchange to occur. Epitaxial ferroelectric oxides must be capable of rectifying light to allow for optical gating of spin interactions. Progress toward these goals, pursued within the Center for Oxide-Semiconductor Materials for Quantum Computation (COSMQC), will be described. This work is supported by DARPA QuIST through ARO contract number DAAD-19-01-1-0650.