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Superconducting Quantum Materials and Systems Center

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This talk will discuss the Superconducting Quantum Materials and Systems (SQMS) Center, Fermilab's recently awarded DOE National Quantum Information Science Center. With 20 partner institutions coming from industry, academia, and national laboratories, the center has been tasked to produce dramatic advancements in quantum technologies for computing and sensing and to build the first quantum computer at Fermilab, which will utilize superconducting radio frequency (SRF) technology. Given the record-long coherence times that SRF offers in the quantum regime, this quantum computer prototype may be far superior to current quantum processors and will enable new calculations and simulations. I will present the SQMS Center activities aimed at this endeavor and will focus on how the first SRF technology-based quantum computer will come to life.

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