

Talk: Scaling Quantum Computing Error Correction

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Content

Abstract: With the advent of quantum processors and algorithms, the race for functionality began. Several quantum technologies offer advantages over others, with superconducting qubits being the fastest. This makes them the most attractive technology despite suffering from two big drawbacks. The first is physical scaling, which is limited by the space inside refrigerators and the drop in cooling effectiveness as they grow. The second, and most crucial, is short coherence times and noisy operations, which render them barely usable in their current state. This second aspect is the focus of our work as we optimize algorithmic implementations of error-correcting codes to improve reliability, aiming at real-time execution.

Summary

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Session Classification : Plenary talks and Central America research presentations. Chair: Sergio Arguedas