Title: Fault tolerance as topology, a duet for chalk and violin

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Abstract: We are used to thinking of there being different types of fault-tolerant gates allowing reliable computation on states in a noisy quantum computer: Some are transversal, some involve measurement and magic states, some involve topological manipulations, etc. In this talk, we will demonstrate that transversal gates can be seen as a topological effect, and we will propose an over-arching framework for thinking about fault tolerance in terms of fiber bundles over the Grassmanian, the manifold of subspaces of Hilbert space. The violin will harmonize with the chalkboard to put the talk to music.

Zoom Link: https://pitp.zoom.us/j/97600230984?pwd=NDJ4VjdvUS9palA4YzFnZHBwcnJkUT09







